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PALEY'S

NATURAL THEOLOGY

Illustrated.

DISCOURSE,

A

DISCOURSE

OF

NATURAL THEOLOGY,

SHOWING

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THE NATURE OF THE EVIDENCE AND THE ADVANTAGES OF THE STUDY.

BY

HENRY LORD BROUGHAM, F.R.S.,

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A DISCOURSE

OF

NATURAL THEOLOGY.

TO

JOHN CHARLES EARL SPENCER.

THE composition of this Discourse was undertaken in consequence of an observation which I had often made, that scientific men were apt to regard the study of Natural Religion as little connected with philosophical pursuits. Many of the persons to whom I allude were men of religious habits of thinking; others were free from any disposition towards scepticism, rather because they had not much discussed the subject, than because they had formed fixed opinions upon it after inquiry: but the bulk of them relied little upon Natural Theology, which they seemed to regard as a speculation built rather on fancy than on argument; or, at any rate, as a kind of knowledge quite different from either physical or moral science. It therefore appeared to me desirable to define, more precisely than

had yet been done, the place and the claims of Natural Theology among the various branches of human knowledge.

About the same time our Society*, as you may recollect, was strongly urged to publish an edition of Dr. Paley's popular work, with copious and scientific illustrations. We both favoured this plan; but some of our colleagues justly apprehended that the adoption of it might open the door to the introduction of religious controversy among us, against our fundamental principles; and the scheme was abandoned. I regarded it, however, as expedient to carry this plan into execution by individual exertion; and our worthy and accomplished colleague, Sir C. Bell—whose admirable treatise on Animal Mechanics pointed him out as the fellow-labourer I should most desire—fortunately agreed to share the work of the illustrations. In these we have made a very considerable progress; and I now inscribe this publication, but particularly the Preliminary Discourse, to you. It was, with the exception of the Third Section of Part I., and the greater portion of the Notes, written at the end of 1830, in 1831, and the latter part of 1833, and a

* For the Diffusion of Useful Knowledge.

portion was added in the autumn of 1834. In those days I held the Great Seal of this kingdom; and it was impossible to finish the work while many cares of another kind pressed upon me. But the first leisure that could be obtained was devoted to this object, and to a careful revision of what had been written in a season less auspicious for such speculations.

I inscribe the fruits of those studies to you, not merely as a token of ancient friendship—for that you do not require; nor because I always have found you, whether in possession or in resistance of power, a fellow-labourer to maintain our common principles, alike firm, faithful, disinterested—for your known public character wants no testimony from me; nor yet because a work on such a subject needs the patronage of a great name—for it would be affectation in me to pretend any such motive; but because you have devoted much of your time to such inquiries—are beyond most men sensible of their importance—concur generally in the opinions which I profess to maintain—and had ever formed the design of giving to the world your thoughts upon the subject, as I hope and trust you now will be moved to do all the more for the present address. In this view, your authority will prove of great value to

the cause of truth, however superfluous the patronage of even your name might be to recommend the most important of all studies.

Had our lamented friend Romilly lived, you are aware that not even these considerations would have made me address any one but him, with whom I had oftentimes speculated upon this ground. Both of us have been visited with the most severe afflictions, of a far nearer and more lasting kind than even his removal, and we are now left with few things to care for; yet ever since the time I followed him to the grave, I question if either of us has read, without meditating upon the irreparable loss we and all men then sustained, the words of the ancient philosopher best imbued with religious opinions—"Proficiscar enim non ad eos solum viros de quibus ante dixi, sed etiam ad Catonem meum, quo nemo vir melior natus est, nemo pietate præstantior; cujus a me corpus crematum est, animus vero non me deserens sed respectans, in ea profecto loca discessit quo mihi ipsi cernebat esse veniendum; quem ego meum casum fortiter ferre visus sum, non quod æquo animo ferrem; sed me ipse consolabar, existimans, non longinquum inter nos digressum et discessum fore."*

* De Senect.

INTRODUCTION.

ARRANGEMENT OF SUBJECTS AND EXPLANATION OF TERMS.

The words *Theology* and *Religion* are often used as synonymous. Thus *Natural Theology* and *Natural Religion* are by many confounded together. But the more accurate use of the words is that which makes *Theology* the science, and *Religion* its subject; and in this manner are they distinguished when we speak of a "professor of theology," and a "sense of religion."

There is, however, as regards *Natural Theology*, a more limited use of the word, which confines it to the knowledge and attributes of the Deity, and regards the speculation concerning his will, and our own hopes from and duties towards him, as another branch of the science, termed *Natural Religion*, in contradistinction to the former. Dr. Paley hardly touches on this latter branch in his book, there being only about one-sixtieth part

devoted to it, and that incidentally in treating of the attributes. Indeed, though in the dedication he uses the word *Religion* as synonymous with *Theology*, the title and the arrangement of his discourse show that he generally employed the term *Natural Theology* in its restricted sense. Bishop Butler, on the other hand, seems to have used *Natural Religion* in a sense equally restricted, but certainly little warranted by custom; for that portion of his work which treats of Natural Religion is confined to a future state and the moral government of God, as if he either held Natural Religion and Natural Theology to be two branches of one subject, or Natural Religion to be a branch of Natural Theology. The older writers, Clarke, Bentley, Derham, seem to have sometimes used the words indifferently, but never to have regarded Natural Religion in the restricted acceptation. The ancients generally used *Religion* in a qualified sense, either as connected with an obligation, or as synonymous with superstition.

This Discourse is not a treatise of Natural Theology: it has not for its design an exposition of the doctrines whereof Natural Theology con-

sists. But its object is, first, to explain the nature of the evidence upon which it rests—to show that it is a science, the truths of which are discovered by induction, like the truths of Natural and Moral Philosophy—that it is a branch of science partaking of the nature of each of those great divisions of human knowledge, and not merely closely allied to them both. Secondly, the object of the Discourse is to explain the advantages attending this study. The work, therefore, is a *Logical* one.

We have commented upon the use of the terms *Theology* and *Religion*. As it is highly desirable to keep scientific language precise, and always to use the same terms in the same sense, we shall now further observe upon the word "*moral*" in relation to science or faculties. It is sometimes used to denote the whole of our mental faculties, and in opposition to natural and physical, as when we speak of "*moral science*," "*moral truths*," "*moral philosophy*." But it is also used in contradistinction to "*intellectual*" or "*mental*," and in connexion with or in reference to obligation; and then it relates to rights and duties, and is synonymous with *ethical*. It seems advisable to

use it always in this sense, and to employ the words *spiritual* and *mental* in opposition to *natural* and *material*; and *psychological*, as applied to the science of mind, in opposition to *physical*. Again, a distinction is sometimes made between the *intellectual* and *moral* powers or faculties—the former being directly those of the understanding, the latter those of the will, or, as they are often called, the "*active powers*,"—that is, the passions and feelings. It seems better to use the word *active* for this purpose as opposed to *intellectual*. Thus we shall have these general terms, *spiritual* or *mental*, as applied to the immaterial part of the creation, and *psychological*, as applied to the science which treats of it. We shall next have a subdivision of the mental faculties into *intellectual* and *active*; both form the subjects of *psychological* science. *Moral* science, in its restricted sense, and properly so called, will then denote that branch which treats of duties, and of what is implied in those duties, their correlative rights: it will, in short, be *ethical* science.

Thus the science of mind—say *Metaphysical* science—may be said to consist of two great

branches, the one of which treats of existences, the other of duties. The one accordingly has been termed, with great accuracy, *Ontology*, speaking of that which *is*; the other, *Deontology*, speaking of that which *ought to be*. The former, however, comprehends properly all physical as well as mental science. The division which appears upon the whole most convenient is this: That *metaphysical* science, as contradistinguished from *physical*, is either *psychological*, which treats of the faculties both intellectual and active, but treats of existences only; or *moral*, which treats of rights and duties, and is distinguishable from psychological, though plainly connected with it nearly as corollaries are with the propositions from whence they flow. Then physical truths, in one respect, come under the same head with the first branch of metaphysical truths. Physical as well as psychological science treats of existences, while moral science alone treats of duties.

According to a like arrangement, Natural Theology consists of two great branches, one resembling *Ontology*, the other analogous to *Deontology*. The former comprehends the discovery of the existence and attributes of a Creator, by investi-

gating the evidences of design in the works of the creation, material as well as spiritual. The latter relates to the discovery of his will and probable intentions with regard to his creatures, their conduct and their duty. The former resembles the physical and psychological sciences, and treats of the evidences of design, wisdom, and goodness exhibited both in the natural and spiritual worlds.

The latter resembles rather the department of moral science, as distinguished from both physical and psychological. We may thus consider the science of Natural Theology as consisting, like all inductive science, of three compartments, Natural, Mental, and Moral; or, taking the Greek terms, Physical, Psychological, and Ethical.

This classification is convenient, and its grounds are very fit to be premised—at the same time that we must admit the question to be one only of classification and technology. Having so stated the divisions of the subject, and the meaning of the terms used in relation to those divisions, I shall assume this arrangement and adhere to this phraseology, as convenient, though far from representing it to be the best. In such discussions it is far more important to employ one uniform and

previously explained language or arrangement, than to be very curious in adopting the best. No classification, indeed, can, from the nature of things, be rigorously exact. All the branches of science, even of natural philosophy, much more of metaphysical, run into each other, and are separated by gradations rather than by lines of demarcation. Nor could any scientific language we possess help breaking down under us in an attempt to maintain a perfectly logical arrangement.*

ANALYSIS OF THE WORK.

THE order of this Discourse is thus set out:

The FIRST PART treats of the nature of the subject, and the kind of evidence upon which Natural Theology rests.

The SECOND PART treats of the advantages derived from the study of the science.

The former Part is divided into seven sections. The *first* is introductory, and treats of the kind of evidence by which the truths of Physical and Psychological science are investigated, and that

* Note I.

shows there is as great an appearance of diversity between the manner in which we arrive at the knowledge of different truths in those inductive sciences, as there is between the nature of any such inductive investigation and the proofs of the ontological branches of Natural Theology. But that diversity is proved to be only apparent; and hence it is inferred, that the supposed difference of the proofs of Natural Theology may also be only apparent.

The *second* section continues the application of this argument to the Physical branch of Natural Theology, and shows further proofs that the first branch of Natural Theology is as much an inductive science as Physics or Natural Philosophy. The first section compared the ontological branches of Natural Theology with all inductive science, physical as well as psychological. The second compares the physical branch of Natural Theology with physical science only.

The *third* section compares the psychological branch of Natural Theology with psychological science, and shows that both rest alike upon induction.

The *fourth* section shows that the *argumentum à priori* is unsound to a great degree—that it is insufficient for the purpose to which it is applied—that it serves only to a limited extent—and that to this extent it is in reality not distinguishable from induction, or the *argumentum à posteriori*.

The *fifth* section treats of the second or Moral, the *deontological* branch of Natural Theology, and shows that it rests upon the same kind of evidence with moral science, and is, strictly speaking, as much a branch of inductive knowledge.

The *sixth* section examines the doctrines of Lord Bacon respecting Final Causes, and shows that he was not adverse to the speculation when kept within due bounds.

The *seventh* section examines the true nature of inductive analysis and synthesis, and shows some important errors prevailing on this subject.

In treating of the proofs of design displayed by the mental constitution of living creatures, and in treating of the Soul's immortality, it becomes necessary to enter more at large into the subject, and therefore the *third* and the *fifth* sections

are not, like the others, mere logical discourses in which the doctrines of Natural Theology are assumed rather than explained. The subjects of those two sections have not been sufficiently handled in professed treatises upon Natural Theology, which have been almost wholly confined to the first branch of the science—the proofs of the Deity's existence and attributes—and to the physical portion of that branch. This defect I have endeavoured to supply.

The Second Part, which treats of the advantages of the study, consists of three sections.

The *first* shows that the precise kind of pleasure derived from the investigation of scientific truths is derived from this study.

The *second* treats of the pleasures which are peculiar to this study.

The *third* treats of the connexion of Natural with Revealed Religion.

PART THE FIRST.

NATURE OF THE SCIENCE, AND OF ITS EVIDENCES.

SECTION I.

INTRODUCTORY VIEW OF THE METHOD OF INVESTIGATION PURSUED IN THE PHYSICAL AND PSYCHOLOGICAL SCIENCES.

THE faculties as well as the feelings of the human mind, its intellectual as well as its active powers, are employed without any intermission, although with varying degrees of exertion, in one of two ways—either in regard to some object immediately connected with the supply of our wants, or in regard to subjects of mere contemplation. The first class of exertions relates to all the objects of necessity, of comfort, or of physical enjoyment: in the pursuit of these, the powers of the understanding, or the passions, or both together, are, with nearly the whole of mankind, employed during the greater portion of their existence, and, with the bulk of mankind, during

almost the whole of their existence. The other class of mental exertions, which engrosses but a very few men for the greater part of their lives, and occupies the majority only occasionally and at considerable intervals, comprehends within its scope all the subjects of meditation and reflection—of merely speculative reasoning and discussion: it is composed of all the efforts which our understanding can make, and all the desires which we can feel, upon subjects of mere science or taste, matters which begin and end in intellectual or moral gratification.

It is unquestionably true that these two grand branches of exertion have an intimate connexion with each other. The pursuits of science lend constant assistance to those of active life; and the practical exercise of the mental powers constantly furthers the progress of science merely speculative. But the two provinces are nevertheless perfectly distinguishable, and ought not to be confounded. The corollary from a scientific discovery may be the improvement of a very ordinary machine or a common working tool; yet the establishment of the speculative truth may have been the primary object of the philosopher who

discovered it; and to learn that truth is the immediate purpose of him who studies the philosopher's system. So the better regulation of the affections or the more entire control of the passions may be the result of an acquaintance with our mental constitution; but the object of him who studies the laws of mind is merely to become acquainted with the spiritual part of our nature. In like manner, it is very possible that the knowledge of a scientific truth may force itself upon one whose faculties or feelings are primarily engaged in some active exertion. Some physical law, or some psychological truth, may be discovered by one only intent upon supplying a physical want, or obtaining a mental enjoyment. But here, as in the former case, the scientific or speculative object is incidental to the main pursuit: the matter of contemplation is the corollary, the matter of action the proposition.

The merely contemplative pursuits which thus form one of the great branches of mental exertion seem again to be divisible into two classes, by a line that, to a careless observer, appears sufficiently defined. The objects of our inquiry and meditation appear to be either those things in the physical

and spiritual worlds with which we are conversant through our senses or by means of our internal consciousness, or those things with which we are made acquainted only by reasoning—by the evidence of things unseen and unfelt. We either discuss the properties and relations of actually perceived and conceived beings, physical and mental—that is, the objects of sense and of consciousness—or we carry our inquiries beyond those things which we see and feel; we investigate the origin of them and of ourselves; we rise from the contemplation of nature and of the spirit within us, to the first cause of all, both of body and of mind. To the one class of speculation belong the inquiries how matter and mind are framed, and how they act; to the other class belong the inquiries whence they proceed, and whither they tend. In a word, the structure and relations of the universe form the subject of the one branch of philosophy, and may be termed *Human Science;* the origin and destiny of the universe forms the subject of its other branch, and is termed *Divine Science*, or *Theology*.

It is not to be denied that this classification may be convenient; indeed, it rests upon some

real foundation, for the speculations which compose these two branches have certain common differences and common resemblances. Yet it is equally certain, that nothing but an imperfect knowledge of the subject, or a superficial attention to it, can permit us to think that there is any well-defined boundary which separates the two kinds of philosophy; that the methods of investigation are different in each; and that the kind of evidence varies by which the truths of the one and of the other class are demonstrated. The error is far more extensive in its consequences than a mere inaccuracy of classification, for it materially impairs the force of the proofs upon which Natural Theology rests. The proposition which we would place in its stead is, That this science is strictly a branch of inductive philosophy, formed and supported by the same kind of reasoning upon which the Physical and Psychological sciences are founded. This important point will be established by a fuller explanation; and we shall best set about this task by showing, in the first place, that the same apparent diversity of evidence exists in the different subjects or departments of the branch which we have termed Human science. It seems

to exist there on a superficial examination: if a closer scrutiny puts that appearance to flight, the inference is legitimate, that there may be no better ground for admitting an essential difference between the foundations of Human Science and Divine.

The careless inquirer into physical truth would certainly think he had seized on a sound principle of classification, if he should divide the objects with which philosophy, Natural and Mental, is conversant, into two classes—those objects of which we know the existence by our senses or our consciousness; that is, external objects which we see, touch, taste, and smell, internal ideas which we conceive or remember, or emotions which we feel—and those objects of which we only know the existence by a process of reasoning, founded upon something originally presented by the senses or by consciousness. This superficial reasoner would range under the first of these heads the members of the animal, vegetable, and mineral kingdoms; the heavenly bodies; the mind—for we are supposing him to be so far capable of reflection as to know that the proof of the mind's separate existence is, at the least, as short, plain, and direct, as that

of the body, or of external objects. Under the second head he would range generally whatever objects of examination are not directly perceived by the senses, or felt by consciousness.

But a moment's reflection will show both how very short a way this classification would carry our inaccurate logician, and how entirely his principle fails to support him even during that little part of the journey. Thus the examination of certain visible objects and appearances enables us to ascertain the laws of light and of vision. Our senses teach us that colours differ, and that their mixture forms other hues; that their absence is black, their combination in certain proportions white. We are in the same way enabled to understand that the organ of vision performs its functions by a natural apparatus resembling, though far surpassing, certain instruments of our own constructing, and that therefore it works on the same principles. But that light, which can be perceived directly by none of our senses, exists as a separate body, we only infer by a process of reasoning from things which our senses do perceive. So we are acquainted with the effects of heat; we know that it extends

the dimensions of whatever matter it penetrates; we feel its effects upon our own nerves when subjected to its operation; and we see its effects in augmenting, liquefying, and decomposing other bodies; but its existence as a separate substance we do not know, except by reasoning and by analogy. Again, to which of the two classes must we refer the air? Its existence is not made known by the sight, the smell, the taste; but is it by the touch? Assuredly a stream of it blown upon the nerves of touch produces a certain effect; but to infer from thence the existence of a rare, light, invisible, and impalpable fluid, is clearly an operation of reasoning, as much as that which enables us to infer the existence of light or heat from their perceptible effects. But furthermore, we are accustomed to speak of seeing motion; and the reasoner whom we are supposing would certainly class the phenomena of mechanics, and possibly of dynamics generally, including astronomy, under his first head, of things known immediately by the senses. Yet assuredly nothing can be more certain than that the knowledge of motion is a deduction of reasoning, not a perception of sense; it is derived from the comparison of two

positions: the idea of a change of place is the result of that comparison attained by a short process of reasoning; and the estimate of velocity is the result of another process of reasoning and of recollection. Thus, then, there is at once excluded from the first class almost the whole range of natural philosophy. But are we quite sure that anything remains which when severely examined will stand the test? Let us attend a little more closely to the things which we have passed over hastily, as if admitting that they belonged to the first class.

It is said that we do not see light, and we certainly can know its existence directly by no other sense but that of sight, but that we see objects variously illuminated, and therefore that the existence of light is an inference of reason, and the diversity of colour an object of sense. But the very idea of diversity implies reasoning, for it is the result of a comparison, and when we affirm that white light is composed of the seven primary colours in certain proportions, we state a proposition which is the result of much reasoning—reasoning, it is true, founded upon sensations or impressions upon the senses; but not less founded upon such

sensations is the reasoning which makes us believe in the existence of a body called light. The same may be said of heat and the phenomena of heated bodies. The existence of heat is an inference from certain phenomena, that is certain effects produced on our external senses by certain bodies, or certain changes which those senses undergo in the neighbourhood of those bodies; but it is not more an inference of reason than the proposition that heat extends or liquefies bodies, for that is merely a conclusion drawn from comparing our sensations occasioned by the external objects placed in varying circumstances.

But can we say that there is no process of reasoning even in the simplest case which we have supposed our reasoner to put—the existence of the three kingdoms, of nature, of the heavenly bodies, of the mind? It is certain that there is in every one of these cases a process of reasoning. A certain sensation is excited in the mind through the sense of vision; it is an inference of reason that this must have been excited by something, or must have had a cause. That the cause must have been external may possibly be allowed to be another inference which reason could make un-

aided by the evidence of any other sense. But to discover that the cause was at any the least distance from the organ of vision clearly required a new process of reasoning, considerable experience, and the indications of other senses; for the young man whom Mr. Cheselden couched for a cataract at first believed that every thing he saw touched his eye. Experience and reasoning, therefore, are required to teach us the existence of external objects; and all that relates to their relations of size, colour, motion, habits, in a word, the whole philosophy of them, must of course be the result of still longer and more complicated processes of reasoning. So of the existence of the mind: although undoubtedly the process of reasoning is here the shortest of all, and the least liable to deception, yet so connected are all its phenomena with those of the body, that it requires a process of abstraction alien from the ordinary habits of most men, to be persuaded that we have a more undeniable evidence of its separate existence than we even have of the separate existence of the body.

It thus clearly appears that we have been justified in calling the classifier whose case we

have been supposing, a careless inquirer, a superficial reasoner, an imperfect logician; that there is no real foundation for the distinction which we have supposed him to take between the different objects of scientific investigation; that the evidence upon which our assent to both classes of truths reposes is of the same kind, namely, the inferences drawn by reasoning from sensations or ideas, originally presented by the external senses, or by our inward consciousness.

If, then, the distinction which at first appeared solid, is found to be without any warrant in the different kinds of Human Science, has it any better grounds when we apply it to draw the line between that branch of philosophy itself, and the other which has been termed Divine, or Theology? In other words, is there any real, any specific difference between the method of investigation, the nature of the evidence, in the two departments of speculation? Although this Preliminary Discourse, and indeed the work itself which it introduces, and all the illustrations of it, are calculated throughout to furnish the answer to the question, we shall yet add a few particulars in this place, in order to show how precisely the

same fallacy which we have been exposing, in regard to the classification of objects in ordinary scientific research, gives rise to the more general classification or separation of all science into two distinct branches, Human and Divine, and how erroneous it is to suppose that these two branches rest upon different foundations.

SECTION II.

COMPARISON OF THE PHYSICAL BRANCH OF NATURAL THEOLOGY WITH PHYSICS.

THE two inquiries—that into the nature and constitution of the universe, and that into the evidence of design which it displays—in a word, physics and psychology, philosophy whether natural and mental, and the fundamental branch of Natural Theology,—are not only closely allied one to the other, but are to a very considerable extent identical. The two paths of investigation for a great part of the way completely coincide. The same induction of facts which leads us to a knowledge of the structure of the eye, and its functions in the animal economy, leads us to the knowledge of its adaptation to the properties of light. It is a truth of physics, in the strictest sense of the word, that vision is performed by the eye refracting light, and making it converge to a focus upon the retina; and that the peculiar combination of its lenses, and the different materials they are composed of, correct the indistinctness which

would otherwise arise from the different refrangibility of light; in other words, make the eye an achromatic instrument. But if this is not also a truth in Natural Theology, it is a position from which, by the shortest possible process of reasoning, we arrive at a Theological truth—namely, that the instrument so successfully performing a given service by means of this curious structure, must have been formed with a knowledge of the properties of light. The position from which so easy a step brings us to this doctrine of Natural Theology was gained by strict induction. Upon the same evidence which all natural science rests on, reposes the knowledge that the eye is an optical instrument: this is a truth common to both Physics and Theology. Before the days of Sir Isaac Newton, men knew that they saw by means of the eye, and that the eye was constructed upon optical principles; but the reason of its peculiar conformation they knew not, because they were ignorant of the different refrangibility of light. When his discoveries taught this truth, it was found to have been acted upon, and consequently known, by the being who created the eye. Still our knowledge was imperfect; and it was re-

served for Mr. Dollond to discover another law of nature—the different dispersive powers of different substances—which enabled him to compound an object-glass that more effectually corrected the various refrangibility of the rays. It was now observed that this truth also must have been known to the maker of the eye; for upon its basis is that instrument, far more perfect than the achromatic glass of Dollond, framed. These things are truths in both physics and theology; they are truths taught us by the self-same process of investigation, and resting upon the self-same kind of evidence.

When we extend our inquiries, and observe the varieties of this perfect instrument, we mark the adaptation of changes to the diversity of circumstances; and the truths thus learnt are in like manner common to Physical and Theological science; that is, to Natural History, or Comparative Anatomy, and Natural Theology.

That beautiful instrument, so artistly contrived that the most ingenious workman could not imagine an improvement of it, becomes still more interesting and more wonderful, when we find that its conformation is varied with the different

necessities of each animal. If the animal prowls by night, we see the opening of the pupil, and the power of concentration in the eye increased. If an amphibious animal has occasionally to dive into the water, with the change of the medium through which the rays pass there is an accommodation in the condition of the humours, and the eye partakes of the eye both of the quadruped and the fish.

So, having contemplated the apparatus for protection in the human eye, we find that in the lower animals, who want both the accessory means of cleaning the eye and the ingenuity to accomplish it by other modes than the eyelids, an additional eyelid, a new apparatus, is provided for this purpose.

Again, in fishes, whose eye is washed by the element in which they move, all the exterior apparatus is unnecessary, and is dismissed; but in the crab, and especially in that species which lies in mud, the very peculiar and horny prominent eye, which every body must have observed, would be quite obscured were it not for a particular provision. There is a little brush of hair above the eye, against which the eye is occasionally raised

to wipe off what may adhere to it. The form of the eye, the particular mode in which it is moved, and, we may say, the coarseness of the instrument compared with the parts of the same organ in the higher class of animals, make the mechanism of eyelids and of lachrymal glands unsuitable. The mechanism used for this purpose is discovered by observation and reasoning: that it is contrived for this purpose is equally a discovery of observation and reasoning. Both propositions are strictly propositions of physical science.

The same remarks apply to every part of the animal body. The use to which each member is subservient, and the manner in which it is enabled so to perform its functions as to serve that appointed use, is learnt by an induction of the strictest kind. But it is impossible to deny, that what induction thus teaches forms the great bulk of all Natural Theology. The question which the theologian always puts upon each discovery of a purpose manifestly accomplished is this: "Suppose I had this operation to perform by mechanical means, and were acquainted with the laws regulating the action of matter, should I attempt it in any other way than I here see practised?" If the

answer is in the negative, the consequence is irresistible, that some power, capable of acting with design, and possessing the supposed knowledge, employed the means which we see used. But this negative answer is the result of reasoning founded upon induction, and rests upon the same evidence whereon the doctrines of all physical science are discovered and believed. And the inference to which that negative answer so inevitably leads is a truth in Natural Theology; for it is only another way of asserting that design and knowledge are evinced in the works and functions of nature.

It may further illustrate the argument to take one or two other examples. When a bird's egg is examined, it is found to consist of three parts; the chick, the yolk in which the chick is placed, and the white in which the yolk swims. The yolk is lighter than the white; and is attached to it at two points by the treadles. If a line were drawn through these two points it would pass below the centre of gravity of the yolk. From this arrangement it must follow that the chick is always uppermost, roll the egg how you will; consequently, the chick is always kept nearest to the breast or belly of the mother while she is sitting. Suppose, then,

that any one acquainted with the laws of motion had to contrive things so as to secure this position for the little speck or sac in question, in order to its receiving the necessary heat from the hen—could he proceed otherwise than by placing it in the lighter liquid, and suspending that liquid in the heavier, so that its centre of gravity should be above the line or plane of suspension? Assuredly not; for in no other way could his purpose be accomplished. This position is attained by a strict induction; it is supported by the same kind of evidence on which all physical truths rest. But it leads by a single step to another truth in Natural Theology; that the egg must have been formed by some hand skilful in mechanism, and acting under the knowledge of dynamics.

The forms of the bones and joints, and the tendons or cords which play over them, afford a variety of instances of the most perfect mechanical adjustment. Sometimes the power is sacrificed for rapidity of motion, and sometimes rapidity is sacrificed for power. Our knee-pan, or patella, throws off the tendon which is attached to it from the centre of motion, and therefore adds to the power of the muscles of the thigh, which

enable us to rise or to leap. We have a mechanism of precisely the same kind in the lesser joints, where the bones, answering the purposes of the patella, are formed of a diminutive size.* In the toes of the ostrich the material is different, but the mechanism is the same. An elastic cushion is placed between the tendon and the joint, which, whilst it throws off the tendon from the centre of motion, and therefore adds to the power of the flexor muscle, gives elasticity to the bottom of the foot. And we recognise the intention of this when we remember that this bird does not fly, but runs with great swiftness, and that the whole weight rests upon the foot, which has but little relative breadth; these elastic cushions serving in some degree the same office as the elastic frog of the horse's hoof, or the cushion in the bottom of the camel's foot.

The web-foot of a water-fowl is an inimitable paddle; and all the ingenuity of the present day exerted to improve our steam-boats makes nothing to approach it. The flexor tendon of the toes of the duck is so directed over the heads of the bones of the thigh and leg, that it is made

* Hence called *Sesamoid*, from *Sesamum*, a kind of grain.

tight when the creature bends its leg, and is relaxed when the leg is stretched out. When the bird draws its foot up, the toes are drawn together, in consequence of the bent position of the bones of the leg pressing on the tendon. When, on the contrary, it pushes the leg out straight, in making the stroke, the tendons are relieved from the pressure of the heel-bone, and the toes are permitted to be fully extended and at the same time expanded, so that the web between them meets the resistance of a large volume of water.

In another class of birds, those which roost upon the branch of a tree, the same mechanism answers another purpose. The great length of the toes of these birds enables them to grasp the branch; yet were they supported by voluntary effort alone, and were there no other provision made, their grasp would relax in sleep. But, on the contrary, we know that they roost on one foot, and maintain a firm attitude. Borelli has taken pains to explain how this is. The muscle which bends the toes lies on the fore part of the thigh, and runs over the joint which corresponds with our knee-joint; from the fore part its tendon passes to the back part of the leg, and over the

joint equivalent to our heel-bone; it then splits, and extends in the bottom of the foot to the toes. The consequence of this singular course of the tendon is, that when the mere weight of the bird causes these two joints to bend under it, the tendon is stretched, or would be stretched, were it not that its divided extremities, inserted into the last bones of the toes, draw these toes, so that they contract, and grasp the branch on which the bird roosts, without any effort whatever on its part.

These are facts learnt by induction; the inductive science of dynamics shows us that such mechanism is calculated to answer the end which, in point of fact, is attained. To conclude from thence that the mechanist contrived the means with the intention of producing this end, and with the knowledge of the science, is also strictly an inference of induction.

Examine now, in land animals, the structure of the larynx, the upper part of which is so contrived as to keep the windpipe closely shut by the valve thrown over its orifice, while the food is passing into the stomach, as it were, over a drawbridge, and, but for that valve, would fall into the lungs. No one can hesitate in ascrib-

ing this curious mechanism to the intention that the same opening of the throat and mouth should serve for conveying food to the stomach and air to the lungs, without any interference of the two operations. But that structure would not be sufficient for animals which live in the water, and must therefore, while they breathe at the surface, carry down their food to devour it below. In them accordingly, as in the whale and the porpoise, we find the valve is not flat, but prominent and somewhat conical, rising towards the back of the nose, and the continuation of the nostril by means of a ring (or *sphyncter*) muscle embraces the top of the windpipe so as to complete the communication between the lungs and the blow-hole, while it cuts off all communication between those lungs and the mouth.

Again, if we examine the structure of a porpoise's head, we find its cavities capable of great distention, and such that he can fill them at pleasure with air or with water, according as he would mount, float, or sink. By closing the blow-hole, he shuts out the water; by letting in the water he can sink; by blowing from the lungs against the cavities, he can force out the water

and fill the hollows with air, in order to rise. No one can doubt that such facts afford direct evidence of an apt contrivance directed towards a specific object, and adopted by some power thoroughly acquainted with the laws of hydrostatics, as well as perfectly skilful in workmanship.

To draw an example from a very different source, let us observe the structure of the Planetary System. There is one particular arrangement which produces a certain effect—namely, the stability of the system,—produces it in a manner peculiarly adapted for perpetual duration, and produces it through the agency of an influence quite universal, pervading all space, and equally regulating the motions of the smallest particles of matter and of its most prodigious masses. This arrangement consists in making the planets move in orbits more or less elliptical but none differing materially from circles, with the sun near the centre, revolving almost in one plane of motion, and moving in the same direction —those whose eccentricity is the most considerable having the smallest masses, and the larger ones deviating hardly at all from the circular path. The influence of gravitation, which is inseparably

connected with all matter as far as we know, extends over the whole of this system; so that all those bodies which move round the sun—twenty-three planets including their satellites, and six or seven comets—are continually acted upon each by two kinds of force,—the original projection which sends them forward, and is accompanied with a similar and probably a coeval rotatory motion in some of them round their axis, and the attraction of each towards every other body, which attraction produces three several effects—consolidating the mass of each, and, in conjunction with the rotatory motion, moulding their forms—retaining each planet in its orbit round the sun, and each satellite in its orbit round the planet—altering or disturbing what would be the motion of each round the sun if there were no other bodies in the system to attract and disturb. Now it is demonstrated by the strictest process of mathematical reasoning, that the result of the whole of these mutual actions, proceeding from the universal influence of gravitation, must necessarily, in consequence of the peculiar arrangement which has been described of the orbits and masses, and in consequence of the law by which gravita-

tion acts, produce a constant alteration in the orbit of each body, which alteration goes on for thousands of years, very slowly making that orbit bulge, as it were, until it reaches a certain shape, when the alteration begins to take the opposite direction, and for an equal number of years goes on constantly, as it were, flattening the orbit, till it reaches a certain shape, when it stops, and then the bulging again begins; and that this alternate change of bulging and flattening must go on for ever by the same law, without ever exceeding on either side a certain point. All changes in the system are thus periodical, and its perpetual stability is completely secured. It is manifest that such an arrangement, so conducive to such a purpose, and so certainly accomplishing that purpose, could only have been made with the express design of attaining such an end—that some power exists capable of thus producing such wonderful order, so marvellous and wholly admirable a harmony, out of such numberless disturbances—and that this power was actuated by the intention of producing this effect.* The reasoning upon this

* Earum autem perennes cursus atque perpetui cum admirabili incredibilique constantiâ, declarant in his vim et mentem esse divinam, ut hæc ipsa qui non sentiat deorum vim habere, is nihil omnino sensurus esse videatur. *Cicero De Nat. Deo.* II. 21.

subject, I have observed, is purely mathematical; but the facts respecting the system on which all the reasoning rests are known to us by induction alone: consequently the grand truth respecting the secular disturbance, or the periodicity of the changes in the system—that discovery which makes the glory of Lagrange and Laplace, and constitutes the triumph of the Integral Calculus, whereof it is the fruit, and of the most patient course of astronomical observation whereon the analysis is grounded—may most justly be classed as a truth both of the Mixed Mathematics and of Natural Theology—for the theologian only adds a single short link to the chain of the physical astronomer's demonstration, in order to reach the great Artificer from the phenomena of his system.

But let us examine further this matter. The position which we reach by a strict process of induction, is common to Natural Philosophy and Natural Theology—namely, that a given organ performs a given function, or a given arrangement possesses a certain stability, by its adaptation to mechanical laws. We have said that the process of reasoning is short and easy, by which we arrive at the doctrine more peculiar

to Natural Theology—namely, that some power acquainted with and acting upon the knowledge of those laws, fashioned the organ with the intention of having the function performed, or constructed the system so that it might endure. Is not this last process as much one of strict induction as the other? It is plainly only a generalization of many particular facts; a reasoning from things known to things unknown; an inference of a new or unknown relation from other relations formerly observed and known. If, to take Dr. Paley's example, we pass over a common and strike the foot against a stone, we do not stop to ask who placed it there; but if we find that our foot has struck on a watch, we at once conclude that some mechanic made it, and that some one dropt it on the ground. Why do we draw this inference? Because all our former experience had told us that such machinery is the result of human skill and labour, and that it nowhere grows wild about, or is found in the earth. When we see that a certain effect, namely, distinct vision, is performed by an achromatic instrument, the eye, why do we infer that some one must have made it? Because we nowhere and at no time have had any experience of

any one thing fashioning itself, and indeed cannot form to ourselves any distinct idea of what such a process as self-creation means; and further, because when we ourselves would produce a similar result, we have recourse to like means. Again, when we perceive the adaptation of natural objects and operations to a perceived end, and from thence infer design in the maker of these objects and superintender of these operations, why do we draw this conclusion? Because we know by experience that if we ourselves desired to accomplish a similar purpose, we should do so by the like adaptation; we know by experience that this is design in us, and that our proceedings are the result of such design; we know that if some of our works were seen by others, who neither were aware of our having made them, nor of the intention with which we made them, they would be right should they, from seeing and examining them, both infer that we had made them, and conjecture why we had made them. The same reasoning, by the help of experience, from what we know to what we cannot know, is manifestly the foundation of the inference, that the members of the body were fashioned for certain uses by a maker acquainted

with their operations, and willing that those uses should be served.

Let us consider a branch of science which, if not wholly of modern introduction, has received of late years such vast additions that it may really be said to have its rise in our own times — I allude to the sublime speculations in Osteology prosecuted by Cuvier, Buckland, and others, in its connexion with Zoological and Geological researches.

A comparative anatomist, of profound learning and marvellous sagacity, has presented to him what to common eyes would seem a piece of half-decayed bone, found in a wild, in a forest, or in a cave. By accurately examining its shape, particularly the form of its extremity or extremities (if both ends happen to be entire), by close inspection of the texture of its surface, and by admeasurement of its proportions, he can with certainty discover the general form of the animal to which it belonged, its size as well as its shape, the economy of its viscera, and its general habits. Sometimes the investigation in such cases proceeds upon chains of reasoning where all the links are seen and understood; where the connexion of the

parts found with other parts and with habitudes is perceived, and the reason understood,—as that the animal had a trunk because the neck was short compared with its height; or that it ruminated because its teeth were imperfect for complete mastication. But, frequently, the inquiry is as certain in its results, although some links of the chain are concealed from our view, and the conclusion wears a more empirical aspect—as gathering that the animal ruminated from observing the print of a cloven hoof, or that he had horns from his wanting certain teeth, or that he wanted the collar-bone from his having cloven hoofs. Limited experience having already shown such connexions as facts, more extended experience will assuredly one day enable us to comprehend the reason of the connexion.

The discoveries already made in this branch of science are truly wonderful, and they proceed upon the strictest rules of induction. It is shown that animals formerly existed on the globe, being unknown varieties of *species* still known; but it also appears that *species* existed, and even *genera*, wholly unknown for the last five thousand years. These peopled the earth,

as it was, not before the general deluge, but before some convulsion long prior to that event had overwhelmed the countries then dry, and raised others from the bottom of the sea. In these curious inquiries, we are conversant not merely with the world before the flood, but with a world which, before the flood, was covered with water, and which, in far earlier ages, had been the habitation of birds, and beasts, and reptiles. We are carried, as it were, several worlds back, and we reach a period when all was water, and slime, and mud, and the waste, without either man or plants, gave resting place to enormous beasts like lions and elephants and river-horses, while the water was tenanted by lizards, the size of a whale, sixty or seventy feet long, and by others with huge eyes having shields of solid bone to protect them, and glaring from a neck ten feet in length, and the air was darkened by flying reptiles covered with scales, opening the jaws of the crocodile, and expanding wings, armed at the tips with the claws of the leopard.

No less strange, and yet no less proceeding from induction, are the discoveries made re-

specting the former state of the earth; the manner in which those animals, whether of known or unknown tribes, occupied it; and the period when, or, at least, the way, in which they ceased to exist. Professor Buckland has demonstrated the identity with the hyæna's of the animal's habits that cracked the bones which fill some of the caves, in order to come at the marrow; but he has also satisfactorily shown that it inhabited the neighbourhood, and must have been suddenly exterminated by drowning. His researches have been conducted by experiments with living animals, as well as by observation upon the fossil remains.*

* The researches both of Cuvier and Buckland, far from impugning the testimony to the great fact of a deluge borne by the Mosaic writings, rather fortify it; and bring additional proofs of the fallacy which, for some time, had led philosophers to ascribe a very high antiquity to the world we now live in.

The extraordinary sagacity of Cuvier is, perhaps, in no instance more shown, nor the singular nature of the science better illustrated, than in the correction which it enabled him to give the speculation of President Jefferson upon the *Megalonyx*—an animal which the President, from the size of a bone discovered, supposed to have existed, four times the size of an ox, and with the form and habits of the lion. Cuvier has irrefragably shown, by an acute and learned induction, that the animal was a sloth, living entirely upon vegetable food, but of enormous size like a rhinoceros, and whose paws could tear up huge trees.

That this branch of scientific inquiry is singularly attractive all will allow. Nor will any one dispute that its cultivation demands great knowledge and skill. But this is not our chief purpose in referring to it. There can be as little doubt that the investigation, in the strictest sense of the term, forms a branch of physical science, and that this branch sprang legitimately from the grand root of the whole,—induction; in a word, that the process of reasoning employed to investigate—the kind of evidence used to demonstrate —its truths, is the modern analysis or induction taught by Bacon and practised by Newton. Now wherein, with reference to its nature and foundations, does it vary from the inquiries and illustrations of Natural Theology? When from examining a few bones, or it may be a single fragment of a bone, we infer that, in the wilds where we found it, there lived and ranged, some thousands of years ago, an animal wholly different from any we ever saw, and from any of which any account, any tradition, written or oral, has reached us, nay, from any that ever was seen by any person of whose existence we ever heard, we assuredly are led to this remote conclusion, by a strict and rigorous process of

reasoning; but, as certainly, we come through that process to the knowledge and belief of things unseen, both of us and of all men—things respecting which we have not, and cannot have, a single particle of evidence, either by sense or by testimony. Yet we harbour no doubt of the fact; we go farther, and not only implicitly believe the existence of this creature, for which we are forced to invent a name, but clothe it with attributes, till, reasoning step by step, we come at so accurate a notion of its form and habits, that we can represent the one, and describe the other, with unerring accuracy; picturing to ourselves how it looked, what it fed on, and how it continued its kind.

Now, the question is this: What perceivable difference is there between the kind of investigations we have just been considering, and those of Natural Theology — except, indeed, that the latter are far more sublime in themselves, and incomparably more interesting to us? Where is the logical precision of the arrangement which would draw a broad line of demarcation between the two speculations, giving to the one the name and the rank of a science, and refusing it to the other, and affirming that

the one rested upon induction, but not the other? We have, it is true, no experience directly of that Great Being's existence in whom we believe as our Creator; nor have we the testimony of any man relating such experience of his own. But so, neither we, nor any witnesses in any age, have ever seen those works of that Being, the lost animals that once peopled the earth; and yet the lights of inductive science have conducted us to a full knowledge of their nature, as well as a perfect belief in their existence. Without any evidence from our senses, or from the testimony of eye-witnesses, we believe in the existence and qualities of those animals, because we infer by the induction of facts that they once lived, and were endowed with a certain nature. This is called a doctrine of inductive philosophy. Is it less a doctrine of the same philosophy, that the eye could not have been made without a knowledge of optics, and as it could not make itself, and as no human artist, though possessed of the knowledge, has the skill and power to fashion it by his handy-work, that there must exist some being of knowledge, skill, and power, superior to our own, and sufficient to create it?

SECTION III.

COMPARISON OF THE PSYCHOLOGICAL BRANCH OF NATURAL THEOLOGY WITH PSYCHOLOGY.

HITHERTO, our argument has rested upon a comparison of the truths of Natural Theology with those of Physical Science. But the evidences of design presented by the universe are not merely those which the material world affords; the intellectual system is equally fruitful in proofs of an intelligent cause, although these have occupied little of the philosopher's attention, and may, indeed, be said never to have found a place among the speculations of the Natural Theologian. Nothing is more remarkable than the care with which all the writers upon this subject, at least among the moderns, have confined themselves to the proofs afforded by the visible and sensible works of nature, while the evidence furnished by the mind and its operations has been wholly neglected.* The celebrated book of Ray on the Wonders of the Creation seems to assume that the human soul has no separate existence—that it forms no part of the created system. Derham

* Note II.

has written upon Astro-theology and Physico-theology as if the heavens *alone* proclaimed the glory of God, and the earth *only* showed forth his handy-work; for his only mention of intellectual nature is in the single chapter of the Physico-theology on the soul, in which he is content with two observations: one, on the variety of man's inclinations, and another, on his inventive powers—giving nothing which precisely proves design. Dr. Paley, whose work is chiefly taken from the writings of Derham, deriving from them its whole plan and much of its substance, but clothing the harsher statements of his original in an attractive and popular style,* had so little of scientific habits, so moderate a power of generalising, that he never once mentions the mind, or any of the intellectual phenomena, nor ever appears to consider them as forming a portion of the works or operations of nature. Thus, all these authors view the revolutions of the

* This observation in nowise diminishes the peculiar merit of the style, and also of the homely, but close and logical, manner in which the argument is put; nor does it deny the praise of bringing down the facts of former writers, and adapting them to the improved state of physical science—a merit the more remarkable, that Paley wrote his Natural Theology at the close of his life.

heavenly bodies, the structure of animals, the organization of plants, and the various operations of the material world which we see carried on around us, as indicating the existence of design, and leading to a knowledge of the Creator. But they pass over in silence, unaccountably enough, by far the most singular work of divine wisdom and power—the mind itself. Is there any reason whatever to draw this line; to narrow within these circles the field of Natural Theology; to draw from the constitution and habits of matter alone the proof that one Intelligent Cause formed and supports the universe? Ought we not rather to consider the phenomena of the mind as more peculiarly adapted to help this inquiry, and as bearing a nearer relation to the Great Intelligence which created and which maintains the system?

There cannot be a doubt that this extraordinary omission had its origin in the doubts which men are prone to entertain of the mind's existence independent of matter. The eminent persons above named* were not materialists, that

* Some have thought, unjustly, that the language of Paley rather savours of materialism; but it may be doubted whether he was fully impressed with the evidence of mental existence. His limited and unexercised powers of abstract discussion, and the

is to say, if you had asked them the question, they would have answered in the negative; they would have gone farther, and asserted their belief in the separate existence of the soul independent of the body. But they never felt this as strongly as they were persuaded of the natural world's existence. Their habits of thinking led them to consider matter as the only certain existence—as that which composed the universe—as alone forming the subject of our contemplations—as furnishing the only materials for our inquiries, whether respecting structure or habits and operations. They had no firm, definite, abiding, precise idea of any other existence respecting which they could reason and speculate. They saw and they felt external objects; they could examine the lenses of the eye, the valves of the veins and arteries, the ligaments and the sockets of the joints, the bones and the drum of the ear; but though they now and then made mention of the mind, and, when forced to the point, would acknowledge a belief in it, they never were fully and intimately persuaded of its separate existence.

natural predilection for what he handled so well—a practical argument level to all comprehensions—appear not to have given him any taste for metaphysical speculations.

They thought of it and of matter very differently; they gave *its* structure, and *its* habits, and *its* operations, no place in their inquiries; their contemplations never rested upon it with any steadiness, and indeed scarcely ever even glanced upon it at all. That this is a very great omission, proceeding, if not upon mere carelessness, upon a grievous fallacy, there can be no doubt whatever.

The evidence for the existence of mind is to the full as complete as that upon which we believe in the existence of matter. Indeed it is more certain and more irrefragable. The consciousness of existence, the perpetual sense that we are thinking, and that we are performing the operation quite independently of all material objects, proves to us the existence of a being different from our bodies, with a degree of evidence higher than any we can have for the existence of those bodies themselves, or of any other part of the material world. It is certain—proved, indeed, to demonstration—that many of the perceptions of matter which we derive through the senses are deceitful, and seem to indicate that which has no reality at all. Some inferences which we draw respecting it are confounded with direct sensation or

perception, for example, the idea of motion; other ideas, as those of hardness and solidity, are equally the result of reasoning, and often mislead. Thus we never doubt, on the testimony of our senses, that the parts of matter touch—that different bodies come in contact with one another, and with our organs of sense; and yet nothing is more certain than that there still is some small distance between the bodies which we think we perceive to touch. Indeed it is barely possible that all the sensations and perceptions which we have of the material world may be only ideas in our own minds: it is barely possible, therefore, that matter should have no existence. But that mind—that the sentient principle—that the thing or the being which we call "*I*" and "*we*," and which thinks, feels, reasons—should have no existence, is a contradiction in terms. Of the two existences, then, that of mind as independent of matter is more certain than that of matter apart from mind. In a subsequent branch of this discourse,* we shall have occasion to treat again of this question, when the constitution of the soul with reference to its future existence becomes the subject of discussion. At

* Sect. V. and Note IV.

present we have only to keep steadily in view the undoubted fact, that mind is quite as much an integral part of the universe as matter.

It follows that the constitution and functions of the mind are as much the subjects of inductive reasoning and investigation, as the structure and actions of matter. The mind equally with matter is the proper subject of observation, by means of consciousness, which enables us to arrest and examine our own thoughts: it is even the subject of experiment, by the power which we have, through the efforts of abstraction and attention, of turning those thoughts into courses not natural to them, not spontaneous, and watching the results.* Now the phenomena of mind, at the knowledge of which we arrive by this inductive process, the only legitimate intellectual philosophy, afford as decisive proofs of design as do the phenomena of matter, and they furnish those proofs by the strict method of induction. In other words, we study the nature and operations of the mind, and gather from them evidences of design, by one and the

* An instance will occur in the *Fifth* Section of this Part, in which experiments upon the course of our thoughts in sleep are described.

same species of reasoning, the induction of facts. A few illustrations of these positions may be useful, because this branch of the science has, as we have seen, been unaccountably neglected by philosophers and theologians.

First. The structure of the mind, in every way in which we can regard it, affords evidences of the most skilful contrivance. All that adapts it so admirably to the operations which it performs, all its faculties, are plainly means working to an end. Among the most remarkable of these is the power of *reasoning*, or first comparing ideas and drawing conclusions from the comparison, and then comparing together those conclusions or judgments. In this process, the great instrument is *attention*, as indeed it is the most important of all the mental faculties. It is the power by which the mind fixes itself upon a subject, and its operations are facilitated by many contrivances of nature, without which the effort would be painful, if not impossible—voluntary attention being the most difficult of all acts of the understanding.

Observe, then, in the *second* place, the helps which are provided for the exertion of this faculty. *Curiosity*, or the thirst of knowledge, is one of the

chief of these. This desire renders any new idea the source of attraction, and makes the mind almost involuntarily, and with gratification rather than pain, bend and apply itself to whatever has the quality of novelty to rouse it. But *association* gives additional facilities of the same kind, and makes us attend with satisfaction to ideas which formerly were present and familiar, and the revival of which gives pleasure oftentimes as sensible as that of novelty, though of an opposite kind. Then, again, *habit*, in this, as in all other operations of our faculties, has the most powerful influence, and enables us to undergo intellectual labour with ease and comfort.

Thirdly. Consider the phenomena of *memory*. This important faculty, without which no intellectual progress whatever could be made, is singularly adapted to its ends. The tenacity of our recollection is in proportion to the attention which has been exercised upon the several objects of contemplation at the time they were submitted to the mind. Hence it follows, that by exerting a more vigorous attention, by detaining ideas for some time under our view, as it were, while they pass through the mind or before it, we cause them to

make a deeper impression upon the memory, and are thus enabled to recollect those things the longest which we most desire to keep in mind. Hence, too, whatever facilitates attention, whatever excites it, as we sometimes say, helps the memory; so that we recollect those things the longest which were most striking at the time. But those things are, generally speaking, most striking, and most excite the attention, which are in themselves most important. In proportion, therefore, as anything is most useful, or for any reason most desirable to be remembered, it is most easily stored up in our memory.

We may observe, however, in the *fourth* place, that readiness of memory is almost as useful as tenacity—quickness of bringing out as power of retention. *Habit* enables us to tax our recollection with surprising facility and certainty; as any one must be aware who has remarked the extraordinary feats performed by boys trained to learn things by heart, and especially to recollect numbers in calculating. From the same force of habit we derive the important power of forming artificial or conventional associations between ideas—of tacking, as it were, one to the other, in

order to have them more under our control; and hence the relation between arbitrary signs and the things signified, and the whole use of language, whether ordinary or algebraical: hence, too, the formation of what is called artificial memory, and of all the other helps to recollection. But a help is provided for quickness of memory, independent of any habit or training, in what may be termed the natural association of ideas, whereby one thing suggests another from various relations of likeness, contrast, contiguity, and so forth. The same association of ideas is of constant use in the exercise of the inventive faculty, which mainly depends upon it, and which is the great instrument not only in works of imagination, but in conducting all processes of original investigation by pure reasoning.

Fifthly. The effect of habit upon our whole intellectual system deserves to be further considered, though we have already adverted to it. It is a law of our nature that any exertion becomes more easy the more frequently it is repeated. This might have been otherwise: it might have been just the contrary, so that each successive operation should have been more diffi-

cult; and it is needless to dwell upon the slowness of our progress, as well as the painfulness of all our exertions, say, rather, the impossibility of our making any advances in learning, which must have been the result of such an intellectual conformation. But the influence of habit upon the exercise of all our faculties is valuable beyond expression. It is indeed the great means of our improvement both intellectual and moral, and it furnishes us with the chief, almost the only, power we possess of making the different faculties of the mind obedient to the will. Whoever has observed the extraordinary feats performed by calculators, orators, rhymers, musicians, nay, by artists of all descriptions, can want no further proof of the power that man derives from the contrivances by which habits are formed in all mental exertions. The performances of the Italian *Improvvisatori*, or masters of poetry off-hand upon any presented subject and in almost any kind of stanza, are generally cited as the most surprising efforts in this kind. But the power of *extempore speaking* is not less singular, though more frequently displayed, at least in this country. A practised orator will declaim in measured and in various

periods—will weave his discourse into one texture —form parenthesis within parenthesis—excite the passions, or move to laughter—take a turn in his discourse from an accidental interruption, making it the topic of his rhetoric for five minutes to come, and pursuing in like manner the new illustrations to which it gives rise—mould his diction with a view to attain or to shun an epigrammatic point, or an alliteration, or a discord; and all this with so much assured reliance on his own powers, and with such perfect ease to himself, that he shall even plan the next sentence while he is pronouncing off-hand the one he is engaged with, adapting each to the other, and shall look forward to the topic which is to follow, and fit in the close of the one he is handling to be its introducer; nor shall any auditor be able to discover the least difference between all this and the portion of his speech which he has got by heart, or tell the transition from the one to the other.

Sixth. The feelings and the passions with which we are moved or agitated are devised for purposes apparent enough, and to effect which their adaptation is undeniable. That of *love* tends to the continuance of the species—the *affec-*

tions, to the rearing of the young; and the former is fitted to the difference of sex, as the latter are to that of age. Generally, there are feelings of *sympathy* excited by distress and by weakness, and these beget attachment towards their objects, and a disposition to relieve them or to support. Both individuals and societies at large gain by the effects thence arising of union and connexion, and mutual help. So *hope,* of which the seeds are indigenous in all bosoms, and which springs up like certain plants in the soil as often as it is allowed to repose, encourages all our labours, and sustains us in every vicissitude of fortune, as well as under all the toils of our being. *Fear,* again, is the teacher of caution, prudence, circumspection, and preserves us from danger. Even *anger,* generally so painful, is not without its use: for it stimulates to defence, and it oftentimes assuages the pain given to our more tender feelings by the harshness, or ingratitude, or injustice, or treachery of those upon whom our claims were the strongest, and whose cruelty or whose baseness would enter like steel into the soul, were no reaction excited to deaden and to protect it. *Contempt,* or even *pity,* is calculated to exercise

the same healing influence.* Then, to go no farther, *curiosity* is implanted in all minds to a greater or a less degree; it is proportioned to the novelty of objects, and consequently to our ignorance, and its immediate effects are to fix our attention—to stimulate our apprehensive powers—by deepening the impressions of all ideas on our minds, to give the memory a hold over them—to make all intellectual exertion easy, and convert into a pleasure the toil that would otherwise be a pain. Can anything be more perfectly contrived as an instrument of instruction, and an instrument precisely adapted to the want of knowledge, by being more powerful in proportion to the ignorance in which we are? Hence it is the great means by which, above all in early infancy, we are taught every thing most necessary for our physical as well as moral existence. In riper years it smooths the way for further acquirements to most men; to some in whom it is

* Atque illi (Crantor et Panætius) quidem etiam utiliter a naturâ dicebant permotiones istas animis nostris datas, metum cavendi causâ; misericordiam ægritudinemque clementiæ; ipsam iracundiam fortitudinis quasi cotem esse dicebant." — *Acad. Quæst.* iv. 44.

strongest, it opens the paths of science; but in all, without any exception, it prevails at the beginning of life so powerfully as to make them learn the faculties of their own bodies, and the general properties of those around them—an amount of knowledge which, for its extent and its practical usefulness, very far exceeds, though the most ignorant possess it, whatever additions the greatest philosophers are enabled to build upon it in the longest course of the most successful investigations.

Nor is it the curiosity natural to us all that alone tends to the acquirement of knowledge the *desire of communicating* it is a strong propensity of our nature, and conduces to the same important end. There is a positive pleasure as well in teaching others what they knew not before, as in learning what we did not know ourselves; and it is undeniable that all this might have been differently arranged without a material alteration of our intellectual and moral constitution in other respects. The propensity might have been, like the perverted desires of the miser, to retain what we know without communication, as it might have been made painful instead of pleasurable to ac-

quire new ideas, by novelty being rendered repulsive and not agreeable. The stagnation of our faculties, the suspension of mental exertion, the obscuration of the intellectual world, would have followed as certainly as universal darkness would veil the universe on the extinction of the sun.

Thus far we have been considering the uses to which the mental faculties and feelings are subservient, and their admirable adaptation to these ends. But view the intellectual world as a whole, and surely it is impossible to contemplate without amazement the extraordinary spectacle which the mind of man displays, and the immense progress which it has been able to make in consequence of its structure, its capacity and its propensities, such as we have just been describing them. If the brightness of the heavenly bodies, the prodigious velocity of their motions, their vast distances and mighty bulk, fill the imagination with awe, there is the same wonder excited by the brilliancy of the intellectual powers—the inconceivable swiftness of thought—the boundless range which our fancy can take—the vast objects which our reason can embrace. That we should have been able to

resolve the elements into their more simple constituents—to analyze the subtle light which fills all space—to penetrate from that remote particle in the universe, of which we occupy a speck, into regions infinitely remote—ascertain the weight of bodies at the surface of the most distant worlds—investigate the laws that govern their motions, or mould their forms—and calculate to a second of time the periods of their re-appearance during the revolution of centuries,—all this is in the last degree amazing, and affords much more food for admiration than any of the phenomena of the material creation. Then what shall we say of that incredible power of generalization which has enabled some even to anticipate by ages the discovery of truths the farthest removed above ordinary apprehension, and the most savouring of improbability and fiction—not merely of a Clairaut conjecturing the existence of a seventh planet, and the position of its orbit, but of a Newton learnedly and sagaciously inferring, from the refraction of light, the inflammable quality of the diamond, the composition of apparently the simplest of the elements, and the opposite nature of the two ingredients, unknown for a century

after, of which it is composed?* Yet there is something more marvellous still in the processes of thought, by which such prodigies have been performed, and in the force of the mind itself, when it acts wholly without external aid, borrowing nothing whatever from matter, and relying on its own powers alone. The most abstruse investigations of the mathematician are conducted without any regard to sensible objects; and the helps he derives in his reasonings from material things at all, are absolutely insignificant, compared with the portion of his work which is altogether of an abstract kind—the aid of figures and letters being only to facilitate and abridge his labour, and not at all essential to his progress. Nay, strictly speaking, there are no truths in the whole range of the pure mathematics which might not, by possibility, have been discovered and systematized by one deprived of sight and touch, or immured in a dark chamber, without the use of a single material object. The instrument of Newton's

* Further induction may add, to the list of these wonderful conjectures, the thin ether, of which he even calculated the density and the effects upon planetary motion. Certainly the acceleration of Encke's comet does seem to render this by no means improbable.

most sublime speculations, the *calculus* which he invented, and the astonishing systems reared by its means, which have given immortality to the names of Euler, Lagrange, Laplace, all are the creatures of pure abstract thought, and all might, by possibility, have existed in their present magnificence and splendour, without owing to material agency any help whatever, except such as might be necessary for their recording and communication. These are, surely, the greatest of all the wonders of nature, when justly considered, although they speak to the understanding and not to the sense. Shall we, then, deny that the eye could be made without skill in optics, and yet admit that the mind could be fashioned and endowed without the most exquisite of all skill, or could proceed from any but a mind of infinite power?

At first sight, it may be deemed that there is an essential difference between the evidence from mental and from physical phenomena. It may be thought that mind is of a nature more removed beyond our power than matter—that over the masses of matter man can himself exercise some control—that, to a certain degree, he has a plastic

power—that into some forms he can mould them, and can combine into a certain machinery—that he can begin and can continue motion, and can produce a mechanism by which it may be begun, and maintained, and regulated—while mind, it may be supposed, is wholly beyond his reach; over it he has no grasp; its existence alone is known to him, and the laws by which it is regulated;—and thus, it may be said, the great First Cause, which alone can call both matter and mind into existence, has alone the power of modulating intellectual nature. But, when the subject is well considered, this difference between the two branches of science disappears with all the rest. It is admitted, of course, that we can no more create matter than we can mind; and we can influence mind in a way altogether analogous to our power of modulating matter. By means of the properties of matter we can form instruments, machines, and figures. So by availing ourselves of the properties of mind, we can affect the intellectual faculties—exercising them, training them, improving them, producing, as it were, new forms of the understanding. Nor is there a greater difference between the mass of

rude iron from which we make steel, and the thousands of watch-springs into which that steel is cut, or the chronometer which we form of this and other masses equally inert—than there is between the untutored indocile faculties of a rustic who has grown up to manhood without education, and the skill of the artist who invented that chronometer, and of the mathematician who uses it to trace the motions of the heavenly bodies.

Although writers on Natural Theology have altogether neglected, at least in modern times, that branch of the subject at large with which we have now been occupied, there is one portion of it which has always attracted their attention—the *Instincts* of animals. These are unquestionably mental faculties, which we discover by observation and consciousness, but which are themselves wholly unconnected with any exercise of reason. They exhibit, however, the most striking proofs of design, for they all tend immediately to the preservation and the comfort of the animals endowed with them. The lower animals are provided with a far greater variety of instincts, and of a more singular kind than man, because they

have only the most circumscribed range and feeblest powers of reason, while to reason man is in almost every thing indebted. Yet it would be as erroneous to deny that we are endowed with any instincts, because so much is accomplished by reason, as it would be rash to conclude that other animals are wholly destitute of reasoning, because they owe so much to instinct. Granting that infants learn almost all those animal functions which are of a voluntary nature, by an early exercise of reason, it is plain that instinct alone guides them in others which are necessary to continue their life, as well as to begin their instruction: for example, they suck, and even swallow by instinct, and by instinct they grasp what is presented to their hands. So, allowing that the brutes exercise but very rarely and in a limited extent, the reasoning powers, it seems impossible to distinguish from the operations of reason those instances of sagacity which some dogs exhibit in obeying the directions of their master, and indeed generally the docility shewn by them and other animals; not to mention the ingenuity of birds in breaking hard substances by letting them drop from a height, and in bringing the water of a deep

pitcher nearer their beaks by throwing in pebbles. These are different from the operations of instinct, because they are acts which vary with circumstances novel and unexpectedly varying; they imply therefore the adaptation of means to an end, and the power of varying those means when obstacles arise: we can have no evidence of design, that is, of reason, in other men, which is not similar to the proof of reason in animals afforded by such facts as these.

But the operations of pure instinct, by far the greater portion of the exertions of brutes, have never been supposed by any one to result from reasoning, and certainly they do afford the most striking proofs of an intelligent cause, as well as of a unity of design in the world. The work of bees is among the most remarkable of all facts in both these respects. The form is in every country the same—the proportions accurately alike—the size the very same to the fraction of a line, go where [illegible] proved to be that which the most refined analysis has enabled mathematicians to discover as of all others the best adapted for the purposes of saving room, and work, and materials. This discovery was

only made about a century ago; nay the instrument that enabled us to find it out—the *fluxional calculus*—was unknown half a century before that application of its powers. And yet the bee had been for thousands of years, in all countries, unerringly working according to this fixed rule, choosing the same exact angle of 120 degrees for the inclination of the sides of its little room, which every one had for ages known to be the best possible angle, but also choosing the same exact angles of 110 and 70 degrees, for the parallelograms of the roof, which no one had ever discovered till the 18th century, when Kœnig solved that most curious problem of *maxima* and *minima*, the means of investigating which had not existed till the century before, when Newton invented the *calculus*, whereby such problems can now be easily worked. It is impossible to conceive any thing more striking as a proof of refined skill than the creation of such instincts, and it is skill altogether applied to the formation of intellectual existence.

Now, all the inferences drawn from the examination which we have just gone through of psychological phenomena are drawn according to the

strict rules of inductive science. The facts relating to the velocity of mental operations—to the exercise of attention—to its connexion with memory—to the helps derived from curiosity and from habit—to the association of ideas—to the desires, feelings, and passions—and to the adjoining provinces of reason and instinct—are all discovered by consciousness or by observation; and we even can make experiments upon the subject by varying the circumstances in which the mental powers are exercised by ourselves and others, and marking the results. The facts thus collected and compared together we are enabled to generalize, and thus to show that certain effects are produced by an agency calculated to produce them. Aware that if we desired to produce them, and had the power to employ this agency, we should resort to it for accomplishing our purpose, we infer both that some being exists capable of creating this agency, and that he employs it for this end. The process of reasoning is not like, but identical with, that by which we infer the existence of design in others (than ourselves) with whom we have daily intercourse. The kind of evidence is not like, but identical with, that by

which we conduct all the investigations of intellectual and of natural science.

Such is the process of reasoning by which we infer the existence of design in the natural and moral world. To this abstract argument an addition of great importance remains to be made. The whole reasoning proceeds necessarily upon the assumption that there exists a being or thing separate from, and independent of, matter, and conscious of its own existence, which we call *mind*. For the argument is—"Had I to accomplish this purpose, I should have used some such means;" or, "Had I used these means, I should have thought I was accomplishing some such purpose." Perceiving the adaptation of the means to the end, the inference is, that some being has acted as we should ourselves act, and with the same views. But when we so speak, and so reason, we are all the while referring to an intelligent principle or existence; we are referring to our mind, and not to our bodily frame. The agency which we infer from this reasoning is, therefore, a spiritual and immaterial agency—the working of something like our own mind—and intelligence like our own, though incomparably more powerful and more

skilful. The being of whom we thus acquire a knowledge, and whose operations as well as existence we thus deduce from a process of inductive reasoning, must be a spirit, and wholly immaterial. But his being such is only inferred, because we set out with assuming the separate existence of our own mind, independently of matter. Without that we never could conclude that superior *intelligence* existed or acted. The belief that mind exists is essential to the whole argument by which we infer that the Deity exists. This belief we have shown to be perfectly well grounded, and further occasions of confirming the truth of it will occur under another head of discourse.* But at any rate it is the foundation of Natural Theology in all its branches: and upon the scheme of materialism no rational, indeed no intelligible, account can be given of a first cause, or of the creation or government of the universe.†

* Part V., and Note IV.

† [illegible] ast allusion is made in Dr. [illegible] stated, although it is the foundation of the whole of Natural Theology. Not only does this author leave entirely untouched the argument *à priori* (as it is called), and also all the inductive arguments derived from the phenomena of mind, but he does not even advert to the argument upon

The preceding observations have been directed to the inquiries respecting the design exhibited in the universe. But the other parts of the first great branch of natural theology come strictly within the scope of the same reasoning. Thus, all the proofs of the Deity's *personality*, that is, his individuality, his unity; all the evidence which we have of his works, showing throughout not only that they proceeded from design, but that the design is of one distinctive kind—that they come from the hand not only of an intelligent being, but of a being whose intellect is specifically peculiar, and always of the same character; all these proofs are in the most rigorous sense inductive.

which the inference of design must of necessity rest—that design which is the whole subject of his book. Nothing can more evince his distaste or incapacity for metaphysical researches. He assumes the very point which alone accepts dispute. In combating him they would say that he begged the whole question; for certainly they do not deny, at least in modern times, the [illegible] tation. As to the fundamental doctrine of causation, not the least allusion is ever made to it in any of his writings, even in his Moral Philosophy. This doctrine is discussed in Note III.

SECTION IV.

OF THE ARGUMENT A PRIORI.

Hitherto we have confined our attention to the evidences of Natural Religion afforded by the phenomena of the universe—what is commonly termed the argument *à posteriori*. But some ingenious men, conceiving that the existence and attributes of a Deity are discoverable by reasoning merely, and without reference to facts, have devised what they term the argument *à priori*, of which it is necessary now to speak.

The first thing that strikes us on this subject is the consequence which must inevitably follow from admitting the possibility of discerning the [illegible] of the Deity and his attributes *a priori*, [illegible] independent of facts, [illegible] follow that [illegible] consistent truth, and that it is not only [illegible] for the Deity not to exist, as for the whole to be greater than the sum of its parts, but that it is equally impossible for his attributes to be other than the argu-

ment is supposed to prove they are. Thus the reasoners in question show, by the argument *à priori*, that he is a being of perfect wisdom, and perfect benevolence. Dr. Clarke is as clear of this as he is clear that his existence is proved by the same argument. Now, first, it is impossible that any such truths can be necessary; for their contraries are not things wholly inconceivable, inasmuch as there is nothing at all inconceivable in the Maker of the universe existing as a being of limited power and of mixed goodness, nay of malevolence. We never, before all experience, could pronounce it mathematically impossible that such a being should exist, and should have created the universe. But next, the facts, when we came to examine them, *might* disprove the conclusions drawn *à priori*. The universe *might* by possibility be so constructed that every contrivance might fail to produce the desired effect—the eye might be chromatic and give indistinct images—the joints might be so contrived as to impede motion—every smell, as Paley has it, might be a stink, and every touch a sting. Indeed, we know that, perfect as the frame of things actually is, a few apparent exceptions to

the general beauty of the system have made many disbelieve the perfect power and perfect goodness of the Deity, and invent Manichean theories to account for the existence of evil. Nothing can more clearly show the absurdity of those arguments by which it is attempted to demonstrate the truths of this science as mathematical or necessary, and cognizable *à priori*.

But, *secondly*, let us see whether the argument in question be really one *à priori*, or only a very imperfect process of induction—an induction from a limited number of facts.

Dr. Clarke is the chief patron of this kind of demonstration, as he terms it; and though his book contains it more at large, the statement of his fundamental argument is perhaps to be found most distinctly given in the letters subjoined to that celebrated work. The fundamental propositions in the discourse itself are, That something must have existed from all eternity, and that this [illegible] independent [illegible] he condenses, perhaps explains, certainly illustrates, these positions, (see Answers to Letters 3, 4, and 5,) by arguing that the existence of space and time (or,

as he terms it, duration) proves the existence of something whereof these are qualities, for they are not themselves substances; he cites the celebrated *Scholium Generale* of the *Principia;* and he concludes that the Deity must be the infinite being of whom they are qualities.

But to argue from the existence of space and time to the existence of anything else, is assuming that those two things have a real being independent of our conceptions of them: for the existence of certain ideas in our minds cannot be the foundation on which to build a conclusion that anything external to our minds exists. To infer that space and time are qualities of an infinite and eternal being is surely assuming the very thing to be proved, if a proposition can be said to have a distinct meaning at all which predicates space and time as qualities of anything. What, for example, is time but the succession of ideas, and the consciousness and the recollection which we have of that succession? To call it a quality is absurd; as well might we call motion a quality, or our ideas of absent things and persons a quality.

Again, if space is to be deemed a quality, and

if infinite space be the quality of an infinite being, finite space must also be a quality, and must, by parity of reason, be the quality of a finite being. Of what being? Here is a cube of one foot within an exhausted receiver, or a cylinder of half an inch diameter and three inches high in the Torricellian vacuum. What is the being of whom that square and that cylindrical space are to be deemed as qualities? Is distance, that is, the supposed movement of a point in a straight line, *ad infinitum*, a quality? It must be so if infinite space is. Then of what is it a quality? If infinite space is the quality of an infinite being, infinite distance must be the quality of an infinite being also. But can it be said to be the quality of the same infinite being? Observe that the mind can form just as correct an idea of infinite distance as of infinite space, or, rather, it can form a somewhat more distinct idea. But the being to [illegible] distance cannot [illegible] with that to be [illegible] in all directions. Again, infinite distance shows an infinite being of whom it is the quality, finite distance must be the quality of a finite being.

What being? Of what kind of being is the distance between two trees or two points a quality? There can be no doubt that this argument rests either upon the use of words without meaning, or it is a disguised form of the old doctrine of the *anima mundi*, or of the hypothesis that the whole universe is a mere emanation of the Deity.

But it deserves to be remarked that this argument, which professes to be *à priori*, and wholly independent of all experience, is, strictly speaking, inductive, and nothing more. We can have no idea whatever of space apart from experience. The experience of space filled with matter enables us, by means of abstraction, to conceive space without the matter; and a further abstraction and generalization enable us to conceive infinite space by imagining the limits indefinitely removed of any particular portion of space. But the foundation of the whole reasoning is the experience of certain finite portions of space first observed in connexion with matter. Therefore our ideas of space are the result of our experience as to external objects. Even if we would fancy figure (which is possible) without having seen or touched any

objects external to ourselves, still it would be the experience of our own ideas that had given us this idea. So of time; it is the succession of our ideas, and we have the notion of it from consciousness and memory. From hence we form an idea of indefinite time or eternal duration. But the basis of the whole is the observation which we have made upon the actual succession of our ideas; and this is inductive, though the process of reasoning be very short. It is as much a process of inductive reasoning as that by which we arrive at the knowledge of the mind's existence. There is, therefore, great inaccuracy in denominating the argument in question, were it ever so sound, an argument *à priori*, for it is a reasoning founded on experience, and it is to be classed with the arguments derived from the observation of external objects, the ground of our reasoning *à posteriori* as to matter, or, at the worst, with the information given by consciousness. The whole ground of our reasoning *à posteriori* as to [illegible]

When, however, Dr. Clarke has once found the propositions to which we have been adverting, he deduces from them the whole qualities of the

Deity—those which we learn from experience—and thinks he can derive them all from the simple propositions that lie at the foundation of his argument. It is truly astonishing to find so profound a thinker, and, generally speaking, so accurate a reasoner, actually supposing that he can deduce from the proposition, that a self-existent being must have existed from all time, this other proposition, that therefore this being must be infinitely wise (Prop. XI.), and that he "must of necessity be a being of infinite goodness, justice, and truth, and all other moral perfections, such as become the supreme *governor* and *judge* of the world." (Prop. XII.) With the general texture of this argument we have at present nothing to do, further than to show how little it can by possibility deserve the name either of an argument *a priori*, or be regarded as the demonstration of a necessary truth. For surely, prior to all experience, no one could ever know that there were such things as either judges or governors; and without the previous idea of a finite or worldly ruler and judge, we could never gain any idea of an eternal and infinitely just ruler or judge; and equally certain it is that this demonstration, if it

proves the existence of an infinite and eternal ruler or judge to be a necessary and not a contingent truth (which is Dr. Clarke's whole argument), would just as strictly prove the existence of finite rulers and judges to be a necessary and not a contingent truth; or, in other words, it would follow, that the existence of governors and judges in the world is a necessary truth, like the equality of the three angles in a triangle to two right angles, and that it would be a contradiction in terms, and so an impossibility, to conceive the world existing without governors and judges.

I believe it may safely be said, that very few men have ever formed a distinct apprehension of the nature of Dr. Clarke's celebrated argument, and that hardly any person has ever been at all satisfied with it. The opinion of Dr. Reid is well known upon this subject, and it has received the [illegible] less an authority than that of Dr. Stewart.

[illegible] whether they be as solid as they are [illegible], or whether they be the wanderings of imagination in a region beyond the limits of human understanding, I am unable to determine."

To this Mr. Stewart adds—"After this candid acknowledgment from Dr. Reid, I need not be ashamed to confess my own doubts and difficulties on the same subject."*

That the argument *à priori* has been most explicitly handled by Dr. Clarke, and that its acceptation rests principally upon his high authority, cannot be denied. Nevertheless, other great men preceded him in this field; and besides Sir Isaac Newton, whose *Scholium Generale* is thought to have suggested it, the same reasoning is to be found in the writings of others of Dr. Clarke's predecessors.

The tenth chapter of Mr. Locke's fourth book does not materially differ, in its fundamental position, from the "Demonstration of the Being and Attributes." The argument is all drawn from the truth assumed as self-evident, "Nothing can no more produce any real being than it can be equal to two right angles." From this, and the knowledge we have of our own existence, it is shown to follow, that, "from eternity there has been something;" and again, "that this eternal being must have been most powerful and most

* Philosophy of the Active Powers, i. 334.

knowing," and "therefore God." The only difference between this argument and Dr. Clarke's is, that Mr. Locke states, as one of his propositions, our knowledge of our own existence. But this difference is only in appearance; for Dr. Clarke really has assumed what Mr. Locke has more logically made a distinct proposition. Dr. Clarke's first proposition, that something must have existed from all eternity, is demonstrated by showing the absurdity of the supposition that "the things which now are were produced out of nothing." He therefore assumes the existence of those things, while Mr. Locke more strictly assumes the existence of ourselves only, and indeed states it as a proposition. The other arguments of Mr. Locke are more ingenious than Dr. Clarke's, and the whole reasoning is more rigorous, although he does not give it the name of a demonstration, and scarcely can be said to treat it as proving the Deity's existence to be a necessary truth. When it is so considered, the objections [illegible] would apply to it. Indeed, if Dr. Clarke had stated the different steps of his reasoning as distinctly as Mr. Locke, he would have perceived it to be inconclusive

beyond a very limited extent, and to that extent inductive.*

Dr. Cudworth, in the fifth chapter of his great work,† has, in answering the Democritick arguments, so plainly anticipated Dr. Clarke, that it is hardly possible to conceive how the latter should have avoided referring to it.‡ "If space be indeed a nature distinct from body, and a thing really incorporeal, then will it undeniably follow, from this very principle of theirs (the Democritists), that there must be incorporeal space; and (this space being supposed by them also to be infinite) an infinite incorporeal Deity. Because if space be not the extension of body, nor an affection thereof, then must it of necessity be, either an accident existing alone by itself, without a subject, which is impossible, or else the extension or affection of some other incorporeal substance that is infinite." He then

* See particularly Mr. Locke's proofs of his first position. (Hum. Understanding, IV. x. sec. 3.)

† Intellectual System, Book I. c. v. s. 3, par. 4. The profound learning of this unfinished work, and its satisfactory exposition of the ancient philosophers, are above all praise. Why are the manuscripts of the author still buried in the British Museum?

‡ Cudworth's book was published in 1678. The "Demonstration" was delivered in 1704-5 at the Boyle Lecture.

poses a reply (founded on the doctrines of Gassendi), that space is of a middle nature and essence, and proceeds to observe upon it:—"Whatsoever is, or hath any kind of entity, doth either subsist by itself, or else is an attribute, affection, or mode of something that doth subsist by itself. For it is certain that there can be no mode, accident, or affection of nothing; and, consequently, that nothing cannot be extended nor mensurable. But if space be neither the extension of body, nor yet of substance incorporeal, then must it of necessity be the extension of nothing, and the affection of nothing, and nothing must be mensurable by yards and poles. We conclude, therefore, that from this very hypothesis of the Democritic and Epicurean atheists, that space is a nature distinct from body, and positively infinite, it follows undeniably that there must be some incorporeal substance whose affection the extension is; and because there can be nothing infinite but only the Deity, that it is the infinite extension of our incorporeal Deity." The statement of Dr. Clarke's argument, given in his correspondence, is manifestly, if not taken from this, at least coincident with it in every im-

portant respect. Dr. Cudworth, indeed, confines his reasoning to the consideration of space and immensity, and Dr. Clarke extends his to time and eternity also. But of the two portions of the argument this has been shown to be the most fallacious.

The arguments of the ancient theists were in great part drawn from metaphysical speculations, some of which resembled the argument *à priori*.* But they were pressed by the difficulty of conceiving the possibility of creation, whether of matter or spirit; and their inaccurate views of physical science made them consider this difficulty as peculiar to the creative act. They were thus driven to the hypothesis that matter and mind are eternal, and that the creative power of the Deity is only plastic. They supposed it easy to comprehend how the divine mind should be eternal and self-existing, and matter also eternal and self-existing. They found no difficulty in comprehending how that mind could, by a wish or a word, reduce chaos to order, and mould all the elements of things into their present form; but how everything could be made out of nothing

* Notes VI. and VII.

they could not understand. When rightly considered, however, there is no more difficulty in comprehending the one than the other operation—the existence of the plastic, than of the creative power; or rather, the one is as incomprehensible as the other. How the Supreme Being made matter out of the void is not easily comprehended. This must be admitted; but is it more easy to conceive how the same Being, by his mere will, moved and fashioned the primordial atoms of an eternally existing chaos into the beauty of the natural world, or the regularity of the solar system? In truth, these difficulties meet us at every step of the argument of Natural Theology, when we would penetrate beyond those things, those facts which our faculties can easily comprehend. But they meet us just as frequently, and as hard to surmount, in other parts of Natural Philosophy. How matter acts on matter—how motion is begun, or, when begun, ceases—how impact takes place—what are the conditions and limitations of contact—whether or not matter consists of ultimate particles, endowed with opposite powers of attraction and repulsion, and how these act—how one planet acts upon another at

the distance of a hundred million of miles—or how one piece of iron attracts and repels another at a distance less than any visible space—all these, and a thousand others of the like sort, are questions just as easily put, and as hard to answer, as how the universe could be made out of nothing, or how, out of chaos, order could be made to spring.

In concluding these observations upon the argument *à priori*, I may remark, that although it carries us but a very little way, and would be unsafe to build upon alone, it is yet of eminent use in two particulars. First, it illustrates, if it does not indeed prove, the possibility of an Infinite Being existing beyond and independent of us and of all visible things; and, secondly, the fact of those ideas of immensity and eternity, forcing themselves, as Mr. Stewart expresses it, upon our belief, seems to furnish an additional argument for the existence of an Immense and Eternal Being. At least we must admit that excellent person's remark to be well-founded, that after we have, by the argument *à posteriori* (I should rather say the *other parts* of the argument *à posteriori*), satisfied ourselves of the exist-

ence of an intelligent cause, we naturally connect with this cause those impressions which we have derived from the contemplation of infinite space and endless duration, and hence we clothe with the attributes of immensity and eternity the awful Being whose existence has been proved by a more rigorous process of investigation.*

* Lord Spencer, who has deeply studied these abstruse subjects, communicated to me, before he was aware of my opinion, that he had arrived at nearly the same conclusion upon the merits of the argument *à priori*.

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SECTION V.

MORAL OR ETHICAL BRANCH OF NATURAL THEOLOGY.

If we now direct our attention to the other great branch of Natural Theology, that which we have termed the moral or ethical portion, which treats of the probable designs of the Deity with respect to the future destiny of his creatures, we shall find that the same argument applies to the nature of its truths which we have been illustrating in its application to the first or ontological branch of the science, or that relating to the existence and attributes of the Creator, whether proved by physical or by psychological reasoning. The second branch, like the first, is upon the same foundation with all the other inductive sciences, the only difference being that the one belongs to the inductive science of Natural and Mental, and the other to the inductive science of Moral Philosophy.

The means which we have of investigating the probable designs of the Deity are derived from

two sources—the nature of the human mind, and the attributes of the Creator.

To the consideration of these we now proceed; but in discussing them, and especially the first, there is this difference to be marked as distinguishing them from the former branch of Natural Theology. They are far less abundant in doctrine; they have been much less cultivated by scientific inquirers; and the truths ascertained in relation to them are fewer in number: in a word, our knowledge of the Creator's designs in the order of nature is much more limited than our acquaintance with his existence and attributes. But, on the other hand, the identity of the evidence with that on which the other inductive sciences rest is far more conspicuous in what may be termed the psychological part of the second branch of Natural Theology than in any portion of the first branch, it being much less apparent that the inferences drawn from facts in favour of the Deity's existence and attributes are of the same nature with the ordinary deductions of physical science—in other words, that this part of Natural Theology is a branch of Natural Philosophy—than it is that the deductions from the

nature of the mind in favour of its separate and future existence are a branch of Metaphysical science.

From this diversity it follows, that, in treating this second branch of the subject, there will be more necessity for entering at large into the subject of the Deity's probable designs in regard to the soul, especially those to be inferred from its constitution, than we found for entering into the evidences of his existence and attributes, although there will not be so much labour required for proving that this is a branch of inductive science.

I. PSYCHOLOGICAL ARGUMENT, OR EVIDENCE OF THE DEITY'S DESIGNS DRAWN FROM THE NATURE OF THE MIND.

The Immateriality of the Soul is the foundation of all the doctrines relating to its future State. If it consists of material parts, or if it consists of any modification of matter, or if it is inseparably connected with any combination of material elements, we have no reason whatever for believing that it can survive the existence of the physical part of our frame; on the contrary, its destruction

seems to follow as a necessary consequence of the dissolution of the body. It is true that the body is not destroyed in the sense of being annihilated; but it is equally true that the particular conformation, the particular arrangement of material particles with which the soul is supposed to have been inseparably connected, or in which it is supposed to consist, is gone and destroyed even in the sense of annihilation; for that arrangement or conformation has no longer an existence, any more than a marble statue can be said to have an existence when it is burned into a mass of quicklime. Now it is to the particular conformation and arrangement, and not to the matter itself, that the soul is considered as belonging by any theory of materialism, there being none of the theories of materialists so absurd as to make the total mass of the particles themselves, independent of their arrangement, the seat of the soul. Therefore, the destruction of that form and organization as effectually destroys the soul which consists in it, as the beauty or the intellectual expression of the statue is gone when the marble is reduced to lime-dust.

Happily, however, the doctrines of materialism

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rest upon no solid foundation, either of reason or experience. The vague and indistinct form of the propositions in which they are conveyed affords one strong argument against their truth. It is not easy to annex a definite meaning to the proposition that mind is inseparably connected with a particular arrangement of the particles of matter; it is more difficult to say what they mean who call it a modification of matter; but to consider it as consisting in a combination of matter, as coming into existence the instant that the particles of matter assume a given arrangement, appears to be a wholly unintelligible collocation of words.

Let us, however, resort to experience, and inquire what results may be derived from that safe guide whom modern philosophers most willingly trust, though despised as too humble a helpmate by most of the ancient sages.

We may *first* of all observe that if a particular combination of matter gives birth to what we call mind, this is an operation altogether peculiar and unexampled. We have no other instance of it; we know of no case in which the combination of certain elements produces something quite dif-

ferent, not only from each of the simple ingredients, but also different from the whole compound. We can, by mixing an acid and an alkali, form a third body, having the qualities of neither, and possessing qualities of its own different from the properties of each; but here the third body consists of the other two in combination. There are not two things—two different existences—the neutral salt composed of the acid and the alkali, and another thing different from that neutral salt, and engendered for the first time by that salt coming into existence. So when, by chiselling, "the marble softened into life grows warm," we have the marble new moulded, and endowed with the power of agreeably affecting our senses, our memory, and our fancy; but it is all the while the marble: there is the beautiful and expressive marble instead of the amorphous mass, and we have not, besides the marble, a new existence created by the form which has been given to that stone. But the materialists have to maintain that, by matter being arranged in a particular way, there is produced both the organized body and something different from it, and having not one of its properties—neither dimensions, nor

weight, nor colour, nor form. They have to maintain that the chemist who mixed the aqua fortis and potash produced both nitre and something quite different from all the three, and which began to exist the instant that the nitre crystallized; and that the sculptor who fashioned the Apollo, not only made the marble into a human figure, but called into being something different from the marble and the statue, and which exists at the same time with both and without one property of either. If, therefore, their theory is true, it must be admitted to rest upon nothing which experience has ever taught us: it supposes operations to be performed and relations to exist of which we see nothing that bears the least resemblance in anything we know.

But *secondly*, the doctrine of the materialists in every form which it assumes is contradicted by the most plain and certain deductions of experience. The evidence which we have of the existence of the mind is complete in itself, and wholly independent of the qualities or the existence of matter. It is not only as strong and conclusive as the evidence which makes us believe in the existence of matter, but more strong and

more conclusive; the steps of the demonstration are fewer; the truth to which they conduct the reason is less remote from the axiom—the intuitive or self-evident position whence the demonstration springs. We believe that matter exists because it makes a certain impression upon our senses, that is, because it produces a certain change or a certain effect; and we argue, and argue justly, that this effect must have a cause, though the proof is by no means so clear that this cause is something external to ourselves. But we know the existence of mind by our consciousness of or reflection on what passes within us, and our own existence as sentient and thinking beings implies the existence of the mind which has sense and thought. To know, therefore, that we are, and that we think, implies a knowledge of the soul's existence. But this knowledge is altogether independent of matter, and the subject of it bears no resemblance whatever to matter in any one of its qualities, or habits, or modes of action. Nay, we only know the existence of matter through the operations of the mind; and were we to doubt of the existence of either, it would be far more reasona-

to doubt that matter exists than that mind exists. The existence and the operations of mind, supposing it to exist, will account for all the phenomena which matter is supposed to exhibit. But the existence and action of matter, vary it how we may, will never account for one of the phenomena of mind. We do not believe more firmly in the existence of the sensible objects around us when we are well and awake, than we do in the reality of those phantoms which the imagination conjures up in the hours of sleep, or the season of derangement. But no effect produced by material agency ever produced a spiritual existence, or engendered the belief of such an existence; indeed, the thing is almost a contradiction in terms. That all around us should only be the creatures of our fancy, no one can affirm to be impossible. But that our mind—that which remembers—compares—imagines—in a word, that which thinks—that of the existence of which we are perpetually conscious—that which cannot but exist if we exist—that which can make its own operations the subject of its own thoughts—that this should have no existence is both impossible and indeed a contradiction in

terms. We have, therefore, evidence of the strictest kind—induction of facts the most precise and unerring—to justify the conclusion that the mind exists, and is different from and independent of matter altogether.*

Now this proposition not only destroys the doctrine of the materialists, but leads to the strongest inferences in favour of the mind surviving the body with which it is connected through life. All our experience shows no one instance of annihilation. Matter is perpetually changing—never destroyed; the form and manner of its existence are endlessly and ceaselessly varying—its existence never terminates. The body decays, and is said to perish; that is, it is resolved into its elements, and becomes the material of new combinations, animate and inanimate, but not a single particle of it is annihilated; nothing of us or around us ever ceases to exist. If the mind perishes, or ceases to exist at death, it is the only example of annihilation which we know.

But, it may be said, why should it not, like the body, be changed, or dissipated, or resolved into its elements? The answer is plain: it differs from the body in this, that it has no parts; it

* See, on the Hypothesis of Materialism, Note IV.

is absolutely one and simple; therefore it is incapable of resolution or dissolution. These words, and the operations or events they refer to, have no application to a simple and immaterial existence.

Indeed, our idea of annihilation is wholly derived from matter, and what we are wont to call destruction means only change of form and resolution into parts, or combination into new forms. But for the example of the changes undergone by matter, we should not even have any notion of destruction or annihilation. When we come to consider the thing itself, we cannot conceive it to be possible; we can well imagine a parcel of gunpowder or any other combustible substance ceasing to exist as such by burning or exploding; but that its whole elements should not continue to exist in a different state, and in new combinations, appears inconceivable. We cannot follow the process so far; we can form no conception of any one particle that once is, ceasing wholly to be. How then can we form any conception of the mind which we now know to exist ceasing to be? It is an idea altogether above our comprehension. True, we no longer, after the body is dissolved, perceive the mind,

because we never knew it by the senses; we only were aware of its existence in others by its effects upon matter, and had no experience of it unconnected with the body. But it by no means follows that it should not exist, merely because we have ceased to perceive its effects upon any portion of matter. It had connexion with the matter which it used to act upon, and by which it used to be acted on; when its entire severance took place, that matter underwent a great change, but a change arising from its being of a composite nature. The same separation cannot have affected the mind in the like manner, because its nature is simple and not composite. Our ceasing to perceive any effects produced by it on any portion of matter, the only means we can have of ascertaining its existence, is therefore no proof that it does not still exist; and even if we admit that it no longer does produce any effect upon any portion of matter, still this will offer no proof that it has ceased to exist. Indeed, when we speak of its being annihilated, we may be said to use a word to which no precise meaning can be attached by our imaginations. At any rate, it is much more difficult to suppose that this annihila-

tion has taken place, and to conceive in what way it is effected, than to suppose that the mind continues in some state of separate existence, disencumbered of the body, and to conceive in what manner this separate existence is maintained.

It may be further observed that the material world affords no example of creation, any more than of annihilation. Such as it was in point of quantity since its existence began, such it still is, not a single particle of matter having been either added to it or taken from it. Change—unceasing change—in all its parts, at every instant of time, it is for ever undergoing; but though the combinations or relations of these parts are unremittingly varying, there has not been a single one of them created, or a single one destroyed. Of mind, this cannot be said; it is called into existence perpetually, before our eyes. In one respect this may weaken the argument for the continued existence of the soul, because it may lead to the conclusion, that as we see mind created, so may it be destroyed; while matter, which suffers no addition, is liable to no loss. Yet the argument seems to gain in another direction more force than it loses in this; for

nothing can more strongly illustrate the diversity between mind and matter, or more strikingly show that the one is independent of the other.

Again, the mind's independence of matter and capacity of existence without it, appears to be strongly illustrated by whatever shows the entire dissimilarity of its constitution. The inconceivable rapidity of its operations is, perhaps, the most striking feature of the diversity; and there is no doubt that this rapidity increases in proportion as the interference of the senses—that is, the influence of the body—is withdrawn. A multitude of facts, chiefly drawn from and connected with the Phenomena of Dreams, throw a strong light upon this subject, and seem to demonstrate the possible disconnexion of mind and matter.

The bodily functions are in part suspended during sleep, that is, all those which depend upon volition. The senses, however, retain a portion of their acuteness; and those of touch*

* The common classification of the senses which makes the touch comprehend the sense of heat and cold, is here adopted; though, certainly, there seems almost as little reason for ranging this under touch, as for ranging sight, smell, hearing, and taste under the same head.

and hearing, especially, may be affected without awakening the sleeper. The consequence of the cessation which takes place of all communication of ideas through the senses, is that the action of the mind, and, above all, of those powers connected with the imagination, becomes much more vigorous and uninterrupted. This is shown in two ways—first, by the celerity with which any impression upon the senses, strong enough to be felt without awaking, is caught up and made the groundwork of a new train of ideas, the mind instantly accommodating itself to the suggestions of the impression, and making all its thoughts chime in with that; and, secondly, by the prodigiously long succession of images that pass through the mind, with perfect distinctness and liveliness, in an instant of time.

The facts upon this subject are numerous, and of undeniable certainty, because of daily occurrence. Every one knows the effect of a bottle of hot water applied during sleep to the soles of the feet: you instantly dream of walking over hot mould, or ashes, or a stream of lava, or having your feet burnt by coming too near the fire. But the effect of falling asleep in a stream of cold air,

as in an open carriage, varies this experiment in a very interesting, and, indeed, instructive manner. You will, instantly that the wind begins to blow, dream of being upon some exposed point, and anxious for shelter, but unable to reach it; then you are on the deck of a ship, suffering from the gale—you run behind a sail for shelter, and the wind changes, so that it still blows upon you—you are driven to the cabin, but the ladder is removed, or the door locked. Presently you are on shore, in a house with all the windows open, and endeavour to shut them in vain; or, seeing a smith's forge, you are attracted by the fire, and suddenly a hundred bellows play upon it, and extinguish it in an instant, but fill the whole smithy with their blast, till you are as cold as on the road. If you from time to time awake, the moment you fall asleep again, the same course of dreaming succeeds in the greatest variety of changes that can be rung on our thoughts.

But the rapidity of these changes, and of the succession of ideas, cannot be ascertained by this experiment: it is most satisfactorily proved by another. Let any one who is extremely overpowered with drowsiness—as after sitting up all

night, and sleeping none the next day—lie down, and begin to dictate: he will find himself falling asleep after uttering a few words, and he will be awakened by the person who writes repeating the last word, to show he has written the whole; not above five or six seconds may elapse, and the sleeper will find it at first quite impossible to believe that he has not been asleep for hours, and will chide the amanuensis for having fallen asleep over his work—so great apparently will be the length of the dream which he has dreamt, extending through half a lifetime. This experiment is easily tried: again and again the sleeper will find his endless dream renewed; and he will always be able to tell in how short a time he must have performed it. For suppose eight or ten seconds required to write the four or five words dictated, sleep could hardly begin in less than four or five seconds after the effort of pronouncing the sentence; so that, at the utmost, not more than four or five seconds can have been spent in sleep. But, indeed, the greater probability is, that not above a single second can have been so passed: for a writer will easily finish two words in a second; and suppose he has to write four, and half the

time is consumed in falling asleep, one second only is the duration of the dream, which yet seems to last for years, so numerous are the images that compose it.

Another experiment is still more striking, and affords a more remarkable proof both of the velocity of thought, and of the quickness with which its course is moulded to suit any external impression made on the senses. But this experiment is not so easily tried. A puncture made will immediately produce a long dream, which seems to terminate in some such accident as that the sleeper has been wandering through a wood, and received a severe wound from a spear, or the tooth of a wild animal, which at the same instant awakens him. A gun fired in one instance, during the alarm of invasion, made a military man at once dream the enemy had landed, so that he ran to his post, and repairing to the scene of action, was present when the first discharge took place, which also the same moment awakened him.*

Now these facts show the infinite rapidity of

* The ingenious Eastern tale, in the Spectator, of the magician who made the prince plunge his head into a pail of water, is founded on facts like those to which we have been referring.

thought; for the puncture and the discharge of the gun took place in an instant, and their impression on the senses was as instantaneous; and yet, during that instant, the mind went through a long operation of fancy, suggested by the first part of the impression, and terminated, as the sleep itself was, by the continuation—the last portion of the same impression. Mark what was done in an instant—in a mere point of time. The sensation of the pain or noise beginning is conveyed to the mind, and sets it a thinking of many things connected with such sensations. But that sensation is lost or forgotten for a portion of the short instant during which the impression lasts; for the conclusion of the same impression gives rise to a new set of ideas. The walk in the wood, and the hurrying to the post, are suggested by the sensation beginning. Then follow many things unconnected with that sensation, except that they grew out of it; and, lastly, comes the wound, and the broadside, suggested by the continuance of the sensation, while, all the time, this continuance has been producing an effect on the mind wholly different from the train of ideas the dream consists of, nay, destruc-

tive of that train—namely, the effect of rousing it from the state of sleep, and restoring its dominion over the body. Nay, there may be said to be a third operation of the mind going on at the same time with these two—a looking forward to the *denouement* of the plot,—for the fancy is all along so contriving as to fit that, by terminating in some event, some result consistent with the impression made on the senses, and which has given rise to the whole train of ideas.

There seems every reason to conclude, from these facts, that we only dream during the instant of transition into and out of sleep. That instant is quite enough to account for the whole of what appears a night's dream. It is quite certain we remember no more than ought, according to these experiments, to fill an instant of time; and there can be no reason why we should only recollect this one portion if we had dreamt much more. The fact that we never dream so much as when our rest is frequently broken proves the same proposition almost to demonstration. An uneasy and restless night passed in bed is always a night studded full with dreams. So, too, a night passed on the road in travelling, by such as sleep well in a

carriage, is a night of constant dreams. Every jolt that awakens or half-awakens us seems to be the cause of a dream. If it be said that we always or generally dream when asleep, but only recollect a portion of our dream, then the question arises, why we recollect a dream each time we fall asleep, or are awakened, and no more? If we can recall twenty dreams in a night of interrupted sleep, how is it that we can only recall one or two when our sleep is continued? The length of time occupied by the dream we recollect is the only reason that can be given for our forgetting the rest; but this reason fails if, each time we are roused, we remember separate dreams.

Nothing can be conceived better calculated than these facts to demonstrate the extreme mobility of the mental powers, their total diversity from any material substances or actions; nothing better adapted to satisfy us that the nature of the mind is consistent with its existence apart from the body.

The changes which the mind undergoes in its activity, its capacity, its mode of operation, are matter of constant observation, indeed of every man's experience. Its essence is the same; its

fundamental nature is unalterable; it never loses the distinguishing peculiarities which separate it from matter; never acquires any of the properties of the latter; but it undergoes important changes, both in the progress of time, and by means of exercise and culture. The development of the bodily powers appears to affect it, and so does their decay; but we rather ought to say, that, in ordinary cases, its improvement is contemporaneous with the growth of the body, and its decline generally is contemporaneous with that of the body, after an advanced period of life. For it is an undoubted fact, and almost universally true, that the mind, before extreme old age, becomes more sound, and is capable of greater things, during nearly thirty years of diminished bodily powers; that, in most cases, it suffers no abatement of strength during ten years more of bodily decline; that, in many cases, a few years more of bodily decrepitude produce no effect upon the mind; and that, in some instances, its faculties remain bright to the last, during the almost total extinction of the corporeal endowments. It is certain that the strength of the body, its agility, its patience of fatigue, indeed all its qualities, de-

cline from thirty at the latest; and yet the mind is improving rapidly from thirty to fifty; suffers little or no decline before sixty: and therefore is better when the body is enfeebled, at the age of fifty-eight or fifty-nine, than it was in the acme of the corporeal faculties thirty years before. It is equally certain, that while the body is rapidly decaying, between sixty or sixty-three and seventy, the mind suffers hardly any loss of strength in the generality of men; that men continue to seventy-five or seventy-six in the possession of all their mental powers, while few can then boast of more than the remains of physical strength; and instances are not wanting of persons who, between eighty and ninety, or even older, when the body can hardly be said to live, possess every faculty of the mind unimpaired. We are authorised to conclude, from these facts, that unless some unusual and violent accident interferes, such as a serious illness or a fatal contusion, the ordinary course of life presents the mind and the body running courses widely different, and in great part of the time in opposite directions; and this affords strong proof, both that the mind is independent of the body, and that its destruction

in the period of its entire vigour is contrary to the analogy of nature.

The strongest of all the arguments both for the separate existence of mind, and for its surviving the body remains, and it is drawn from the strictest induction of facts. The body is constantly undergoing change in all its parts. Probably no person at the age of twenty has one single particle in any part of his body which he had at ten; and still less does any portion of the body he was born with continue to exist in or with him. All that he before had has now entered into new combinations, forming parts of other men, or of animals, or of vegetable or mineral substances, exactly as the body he now has will afterwards be resolved into new combinations after his death. Yet the mind continues one and the same, "without change or shadow of turning." None of its parts can be resolved; for it is one and single, and it remains unchanged by the changes of the body. The argument would be quite as strong though the change undergone by the body were admitted not to be so complete, and though some small portion of its harder parts were supposed to continue with us through life.

But observe how strong the inferences arising from these facts are, both to prove that the existence of the mind is entirely independent of the existence of the body, and to show the probability of its surviving! If the mind continues the same while all or nearly all the body is changed, it follows that the existence of the mind depends not in the least degree upon the existence of the body; for it has already survived a total change of, or, in the common use of the words, an entire destruction of that body. But again, if the strongest argument to show that the mind perishes with the body, nay, the only argument be, as it indubitably is, derived from the phenomena of death, the fact to which we have been referring affords an answer to this. For the argument is, that we know of no instance in which the mind has ever been known to exist after the death of the body. Now here is exactly the instance desiderated, it being manifest that the same process which takes place on the body more suddenly at death is taking place more gradually, but as effectually in the result, during the whole of life, and that death itself does not more completely resolve the body into its elements and form it into new combinations than

living fifteen or twenty years does destroy, by like resolution and combination, the self-same body. And yet after those years have elapsed and the former body has been dissipated and formed into new combinations, the mind remains the same as before, exercising the same memory and consciousness, and so preserving the same personal identity as if the body had suffered no change at all. In short, it is not more correct to say that all of us who are now living have bodies formed of what were once the bodies of those who went before us, than it is to say that some of us who are now living at the age of fifty have bodies which in part belonged to others now living at that and other ages. The phenomena are precisely the same, and the operations are performed in like manner though with different degrees of expedition. Now all would believe in the separate existence of the soul if they had experience of its existing apart from the body. But the facts referred to prove that it does exist apart from one body with which it once was united, and that it is in union with another, yet as it is not adherent to the same, it is shown to have an existence separate from, and inde-

pendent of that body. So all would believe in the soul surviving the body, if after the body's death its existence were made manifest. But the facts referred to prove that after the body's death, that is, after the chronic dissolution which the body undergoes during life, the mind continues to exist as before. Here, then, we have that proof so much desiderated—the existence of the soul after the dissolution of the bodily frame with which it was connected. The two cases cannot, in any soundness of reasoning, be distinguished; and this argument, therefore, one of pure induction, derived partly from physical science, through the evidence of our senses, partly from psychological science by the testimony of our consciousness, appears to prove the possible Immortality of the Soul almost as rigorously as "if one were to rise from the dead."

Now we have gone through the first division of this second [illegible] of the subject, and have considered the proofs of the separate and future existence of the soul afforded by the nature of mind. It is quite clear that all of them are derived from a strict induction of facts, and that the doctrines rest upon precisely the same

kind of evidence with that upon which the doctrines respecting the constitution and habits of the mind are founded. In truth, the subjects are not to be distinguished as regards the species of demonstration applicable to them—the process by which the investigation of them is to be conducted. That mind has an existence perceivable and demonstrable as well as matter, and that it is wholly different from matter in its qualities, is a truth proved by induction of facts. That mind can exist independent of matter and survive the dissolution of the body, is a truth proved exactly in the same manner, by induction of facts. The phenomena of dreams which lead to important conclusions touching the nature of the mind, lead, and by the self-same kind of reasoning, to important conclusions of a similar description, touching the mind's existence independent of the body. The facts, partly physical, partly psychological, which show the mind to be unaffected by the decay and by even the total though gradual change of the body during life, likewise show that it can exist after a sudden change of a similar kind, which we term the dissolution of the body by death. There is no means of sepa-

rating the two classes of truths, those of Psychology and those of Natural Theology; they are parts of one and the same science; they are ascertained by one and the same process of investigation; they repose upon one and the same kind of evidence; nor can any person, without giving way to a most groundless and unphilosophical prejudice, profess his belief in the former doctrines, and reject the latter. The only difference between the two is that the Theological propositions are of much greater importance to human happiness than the Metaphysical.

II. MORAL ARGUMENT, OR EVIDENCE OF THE DEITY'S DESIGNS DRAWN FROM HIS ATTRIBUTES IN CONNEXION WITH THE CONDITION OF THE SPECIES.

The probable designs of Divine Providence with respect to the future lot of [illegible] are to be gathered in part from the [illegible] of the world itself, the work of the [illegible] attributes of the Deity, ascertained by an examination of his whole works. Hence it thus happens that a portion of this head of the argument has been anticipated in treating the other head, the nature of the mind. Whatever qualities of the soul show

it to differ from matter, both make it improbable that it should perish with the body, and make it improbable that the Deity should destine it to such a catastrophe; and whatever facts show that it can survive a total change of the body during life, show likewise the probability that the same being who endowed it with that capacity will suffer it, in like manner, to continue in being after the more sudden change which the body undergoes at death.

The argument built upon the supposed designs of the Creator requires to be handled in a humble and submissive spirit; but, if so undertaken, there is nothing in it which can be charged with presumption, or deemed inconsistent with perfect though rational devotion. In truth, all the investigations of Natural Theology are equally liable to [illegible] trace the evidences of design [illegible] and inquire how far benevolence [illegible] their formation and maintenance—[illegible] from what we see, the existence of the Deity, and speculate [illegible] the creation and government of the [illegible]—is just as daring a thing, and exactly of the same kind of audacity,

as to speculate upon His probable intentions with respect to the future destiny of man.

The contemplation of the Deity's goodness, as deducible from the great preponderance of instances in which benevolent design is exhibited, when accompanied with a consideration of the feelings and wishes of the human mind, gives rise to the first argument which is usually adduced in favour of the Immortality of the Soul. There is nothing more universal or more constant than the strong desire of immortality which possesses the mind, and compared with which its other wishes and solicitudes are but faint and occasional. That a benevolent being should have implanted this propensity without the intention of gratifying it, and to serve no very apparent purpose unless it be the proving that it is without an object, appears difficult to believe; for evidently the instinctive fear of death would have served all the purposes of self-preservation without any desire of immortality being connected with it, although there can be no doubt that this desire, or at least the anxiety about our future destiny, is intimately related to our dread of dissolution. But the inference acquires additional strength from the

consideration that the faculties of the mind ripen and improve almost to the time of the body's extinction, and that the destruction of the soul at the moment of its being fitter than ever for worthy things seems quite inconceivable.

The tender affections so strongly and so universally operating in our nature afford another argument of a like kind. No doubt the purpose to which they are subservient in this life is much more distinctly perceivable; yet still it is inconsistent with the provisions of a benevolent Power to suppose that we should be made susceptible of such vehement feelings, and be suffered to indulge in them, so as to make our happiness chiefly consist in their gratification, and that then we should suddenly be made to undergo the bitter pangs of separation, while, by our surviving, those pains are lengthened out without any useful [illegible] resulting [illegible] sufferings. That such separations should be eternal appears irreconcilable with [illegible] of the affections wounded, and [illegible] perceived in [illegible] opposition of [illegible] difficulty, and [illegible] inconsistency.

The unequal distribution of rewards and punishments in this world, that is, the misery in which virtue often exists, and the prosperity not seldom attendant upon vice, can in no way be so well accounted for, consistently with the scheme of a benevolent Providence, as by the supposition of a Future State.

But perhaps there is nothing more strongly indicative of such a design in the Creator than the universal prevalence of religion amongst men. There can hardly be found a tribe so dark and barbarous as to be without some kind of worship, and some belief in a future state of existence. Now all religions are so far of God that he permits them; he made and preserves the faculties which have invented the false ones, as well as those which comprehend and [illegible] up the true faith. Religious belief, religious observance, the looking forward to a future existence, and pointing to a condition in which the deeds done on earth shall be visited with just recompense, are all facts of universal occurrence in the history and intellectual habits of the species. Are they all a mere fiction? Do they indeed signify nothing? Is that a mere groundless fancy, which

in all places, in all ages, occupies and has occupied the thoughts and mingled itself with the actions of all mankind, whether barbarous or refined?*

But if it be said that the belief of such a state is subservient to an important use, the restraining the passions and elevating the feelings, it is obvious to reply, that so great a mechanism to produce this effect very imperfectly and precariously, appears little consistent with the ordinary efficacy and simplicity of the works of Providence, and that the disposition to shun vice and debasement could have been more easily and more certainly implanted by making them disgusting. True, there would then have been little merit in the restraint; but of what value is the production of such merit, if the mind which attains it and becomes adorned by it has no sooner approached perfection than it ceases to exist at all? The supposition of a Future State at once reconciles all inconsistencies here as before, and enables us to comprehend why virtue is taught by the hope of [illegible] those hope

* Notes VIII. and IX.

and the grounds they rest on, form so large a portion of human contemplation.

That the existence of the soul in a new state after the entire dissolution of the body—nay, that the existence of the body itself in a new state, after passing through death, is nothing contrary to the analogies which nature presents, has been oftentimes observed, and is a topic much dwelt upon, especially by the ancient philosophers. The extraordinary transformations which insects undergo have struck men's imaginations so powerfully in contemplating this subject, that the soul itself was deemed of old to be aptly designated under the emblematical form of a butterfly, which having emerged from the chrysalis state, flutters in the air, instead of continuing to crawl on the earth, as it did before the worm it once was ceased to exist.

and especially of the human embryo, has occupied the [illegible] interesting subject. Marking the [illegible] in one state of existence before and after birth, and the diversity of every one animal function at those two periods, philosophers have inferred, that as on passing from the one to the other state of

existence so mighty a change is wrought, without any destruction either of soul or body, a like transition may take place at death, and the event which appears to close our being may only open the portals of a new, and higher, and more lasting condition. As far as such considerations suggest analogies, they furnish matter of pleasing contemplation, perhaps lend even some illustration to the argument. Nevertheless, they must be regarded as exceedingly feeble helps in this latter respect, if indeed their aid be not of a doubtful, and even dangerous kind. They are all drawn from material objects,—all rest upon the properties and the fortunes of corporeal existences. Now the stronghold of those who maintain the Immortality of the Soul, and, indeed, all the doctrines of Natural Theology is the entire difference between mind and matter, and the proofs we have constantly around us, and within us, of existences as real as the bodies which affect our outward senses, but resembling those perishable things in no one quality, no one habit of action, no one mode of being.

Upon the particulars of a future state—the kind of existence reserved for the soul—the spe-

cies of its occupations and enjoyments—Natural Theology is, of course, profoundly silent; but not more silent than Revelation. We are left wholly to conjecture, and in a field on which our hopelessness of attaining any certain result is quite equal to our interest in the success of the search. Indeed, all our ideas of happiness in this world are such as rather to disqualify us for the investigation, or what may more fitly be termed the imagination. Those ideas are, for the most part, either directly connected with the senses, or derived from our condition of weakness here, which occasions the formation of connexions for mutual comfort and support, and gives to the feebler party the feeling of allegiance, to the stronger the pleasure of protection. Yet may we conceive that, [illegible] affections [illegible] have been the most cherished [illegible] life shall survive and form again the delight of meeting those from whom death was severed as—that the soul may enjoy the purest delights in the exercise of its powers, above all, for the investigation of truth—that it may expatiate in the full discovery of whatever has hitherto been most sparingly revealed, or most carefully hidden from its view—that it may

be gratified with the sight of the useful harvest reaped by the world from the good seed which it helped to sow. We can only conjecture or fancy. But these, and such as these, are pleasures in which the gross indulgences of sense have no part, and which are even removed above the less refined of our moral gratifications: they may, therefore, be supposed consistent with a pure and faultless state of spiritual being.

Perhaps the greatest of all the difficulties which we feel in forming such conjectures, regards the endless duration of an immortal existence. All our ideas in this world are so adapted to a limited continuance of life—not only so moulded upon the scheme of a being incapable of lasting beyond a few years, but so inseparably connected with a constant change even here—a perpetual termination of one stage of existence and beginning of another—that we cannot easily, if at all, fancy an eternal, or even a long-continued, endurance of the same faculties, the same pursuits, and the same [illegible]. All here is in perpetual motion [illegible]. There is nothing in us or about us that [illegible] point—nay, an instant. Resting-place there is none for the foot—no haven

is provided where the mind may be still. How then shall a creature, thus wholly ignorant of repose—unacquainted with any continuation at all in any portion of his existence—so far abstract his thoughts from his whole experience as to conceive a long, much more a perpetual, duration of the same powers, pursuits, feelings, pleasures? Here it is that we are the most lost in our endeavours to reach the seats of the blessed with our imperfect organs of perception, and our inveterate and only habits of thinking.*

* The part of Dean Swift's satire which relates to the *Stulbrugs* may possibly occur to some readers as bearing upon this topic. That the staunch admirers of that singularly-gifted person should have been flung into ecstacies on the perusal of this extraordinary part of [illegible] tings, needs not surprise us. [illegible] were full [illegible]; but I am [illegible]

[illegible]

from [illegible] of life, and [illegible]

I am [illegible]

[illegible] this position by [illegible] disguised bogg[illegible] [illegible]. How [illegible] [illegible] his fellow-creatures from [illegible] life by describing a sort of persons who at a given age [illegible] faculties, and became doting, [illegible] idiots? Did [illegible] breathing ever pretend that he wished to live, not only for centuries but even for threescore years and ten, [illegible] of his understanding, and

It remains to observe, that all the speculations upon which we have touched under this second subdivision of the subject, the moral argument, are similar to the doctrines of inductive science—at least to such of those doctrines as are less perfectly ascertained; but the investigation is conducted upon the same principles. The most satisfactory proofs of the soul's immortality are those of the first, or psychological class, derived from studying the nature of mind; those of the second class which we have last been surveying, derived from the condition of man in connexion with the attributes of the Deity, are less distinct and cogent; nor would they be sufficient of themselves; but they add important confirmation to the others; and both are as truly parts of legitimate inductive science as any branch—we may rather say, any *other* branch—of moral philosophy.

SECTION VI.

LORD BACON'S DOCTRINE OF FINAL CAUSES.*

It now appears, that when we said that Natural Theology can no more be distinguished from the physical, psychological, and ethical sciences, in respect of the evidence it rests upon and the manner in which its investigations are to be conducted, than the different departments of those sciences can be distinguished from each other in the like respect, we were only making an assertion borne out by a close and rigorous examination of the subject. How, then, comes [illegible] that the father of [illegible] has banished the speculation of Final Causes from his system, as if it [illegible] no [illegible] tive [illegible] that [illegible] which he pronounced [illegible] not a [illegible] misunderstood by per[illegible] particular aphorisms [illegible] regard- [illegible] the context [illegible] the occasion [illegible] and, *secondly*,

* Note X.

that Lord Bacon may very probably have conceived a prejudice against the subject altogether, from the abuses, or indeed perversions, to which a misplaced affection for it had given rise in some of the ancient schools of philosophy.

That Lord Bacon speaks disparagingly of the inquiry concerning final causes, both when he handles it didactically, and when he mentions it incidentally, is admitted. He enumerates it among the errors that spring from the restlessness of mind *(impotentia mentis)*, which forms the fourth class of the idols of the species *(idola tribus)* or causes of false philosophy, connected with the peculiarities of the human constitution.* In other parts of the same work he descants upon the mischiefs which have arisen in the schools from mixing the doctrines of natural religion with those of natural philosophy;† and he more than once treats of the inquiry concerning final causes as a barren speculation, comparing it to a nun or a vestal consecrated to heaven.‡ But a nearer ex...

* Nov. Org. lib. i. Aph. 48.

† Ib. Aph. 96; and De Dig. et Aug. lib. i.

‡ "Sterilis et tanquam virgo Deo sacra non parit." c. 5. De Dig. lib. iii.

of this great authority will show that it is not adverse to our doctrine.

1. First of all it is to be remarked, that Lord Bacon does not disapprove of the speculation concerning final causes absolutely, and does not undervalue the doctrines of Natural Religion, so long as that speculation and those doctrines are kept in their proper place. His whole writings bear testimony to the truth of this proposition. In the *Parasceve* to natural and experimental history, which closes the *Novum Organum*, he calls the history of the phenomena of nature a volume of the work of God, and as it were another Bible—"volumen operum Dei, et tanquam altera scriptura."* In the first book of the *De Dignitate*, he says there are two books of [illegible] to be consulted—the scriptures, [illegible] to [illegible] [illegible] [illegible]

sophy as the cure for superstition and the support of true religion. "Naturalem Philosophiam, post verbum Dei, certissimam superstitionis medicinam, eandem probatissimum fidei alimentum esse. Itaque merito religioni tanquam fidatissimam et acceptissimam ancillam attribui, cum altera voluntatem Dei, altera potestatem manifestet." * If the earlier part of the passage left any doubt of the kind of service which religion was to derive from inductive science, the last words clearly show that it could only be by the doctrine of final causes.

2. But further, he distinctly classes natural religion among the branches of legitimate science; and it is of great and decisive importance to our present inquiry that we should mark the particular place which he assigns to it. He first divides science into two great branches, Theology and Philosophy — comprehending under the former description only the doctrines of revelation, and under the latter all human science. Now, after expressly excluding Natural Religion from the first class, he treats it as a part of the second.

* Francisci Bacon, Cogitata et Visa.
† De Dig. lib. iii. c. 1.

The second, or philosophy, is divided into three parts, according as its object is the Deity, Nature, or Man. The first of these subdivisions constitutes Natural Religion, which he says may be termed Divine knowledge, if you regard its object, but Natural knowledge, if you consider its nature and evidence ("ratione informationis scientia naturalis censeri potest."*) That he places it in a different subdivision from Natural Philosophy proves nothing; for he classes anatomy, medicine, and intellectual philosophy also in a different subdivision: they come under the head of Human Philosophy, or the science of man, as contradistinguished from Natural Theology and Natural Philosophy, or the science of God and of external objects. Many objections may undoubtedly be made to this classification, of which it is perhaps enough to say, that it leads to separating optics as well as anatomy and medicine† from natural philosophy. But at all events it shows both that Lord Bacon deemed Natural Theology a fit object of philosophical inquiry, and that he regarded the

* De Dig. lib. iii. c. 2.

† Ib. lib. iv. c. 3. He treats the *simulacra* in optics, under the head of the human mind—the senses.

inductive method as furnishing the means by which the inquiry was to be conducted.

3. The general censure upon the doctrine of final causes to which we have in the outset adverted, as conveyed by certain incidental remarks, is manifestly directed against the abuse of such speculations, and more especially in the ancient schools of philosophy. Lord Bacon justly objects to the confounding of final with efficient or physical causes; he marks the loose and figurative language to which this confusion has given rise; he asks if it is philosophical to describe the eye as Aristotle, Galen, and others do, with the eyelids and eyelashes as a wall and a hedge to protect it; or the bones as so many beams and pillars to support the body;* and he is naturally apprehensive of the danger which may result from men introducing fancies of their own into science, and, above all, from their setting out with such fancies, and then making the facts bend to humour them. This is indeed the great abuse of the doctrine of

* De Dig. lib. iii. c. 4.

which are apt to mix themselves with such speculations, and to consecrate error.*

4. The objections of Lord Bacon are the more clearly shown to be levelled against the abuse only, that we find him speaking in nearly similar terms of logic and the mathematics as having impeded the progress of natural science. In the passage already referred to, and which occurs twice in his books, where the Platonists are accused of mixing Natural Religion with philosophy, the latter Platonists (or Eclectics) are in the same words charged with corrupting it by the mathematics, and the Peripatetics by logic.† Not certainly that the greatest logician of modern times could undervalue either his own art or the skill of the analyst, but because Aristotle through dialectic, and Proclus through geometrical pe-

* This idea is expressed [illegible] his wonted felicity, in the 75th Aphorism. "[illegible] ; et pro peste intellectus habenda est, si [illegible] venerat[illegible]." (Nov. Org. lib. i.) He gives an instance of this folly in the [illegible] use [illegible] of some portions of the Bible history—"Hin[illegible] nonnulli ex modernis summâ levitate ita indulserunt, ut in primo capitulo Genesis et in libro Job et aliis scripturis [illegible] Philosophiam Naturalem fundare [illegible] quærentes mortua."

† Nov. Org. lib. i. Aph. 96; De Dig. lib. i.

dantry, neglected that humbler but more useful province of watching and interpreting nature, and used the instruments furnished by logic and the mathematics, not to assist them in classifying facts or in reasoning from them, but to construct phantastic theories, to which they made the facts bend.

When rightly examined, then, the authority of Lord Bacon appears not to oppose the doctrine which we are seeking to illustrate. Yet it is possible that a strong impression of the evils occasioned by the abuse of these speculations may have given him a less favourable opinion of them than they deserved. It appears that he had even conceived some prejudice against logic and the mathematics from a similar cause; and he manifests it, not only in the passages already referred to, but in that portion of his treatise *De Dig. et Aug.*, in which he treats of mathematical as [illegible] to physical science, expressing much hesitation whether to rank it as [illegible] and delivering himself with some aspe[illegible] logicians and [illegible]icians.*

* [illegible] mathematicorum, qui hanc scientiam [illegible] are cupiunt. Nescio enim quo fato fiat ut mathematica et logica, quæ ancillarum loca erga

High as is the authority of this great man—and upon the subject of the present inquiry the highest of all—yet, if it clearly appears that the argument from Final Causes comes within the scope of inductive science, we are bound to admit it within the circle of legitimate human knowledge, even if we found the father of that science had otherwise judged. It is clear that, had he now lived, he would himself have rejected some speculations as wholly beyond the reach of the human faculties, which he unhesitatingly ranges among the objects of sound philosophy.* It is equally undeniable that he would have treated others with greater respect than he has shown them.† Above all, it is certain that he would

physicam se gerere debebant, nihilominus, certitudinem præ se jactantes, dominationem exercere petunt."

* He distinctly considers the "doctrine of angels and spirits" as an "appendix to Natural Theology," and holds that their nature may be investigated by science, including that of unclean spirits or dæmons, which he says hold in this inquiry the same place as poisons do in physics, or vices in ethics—(De Dig. lib. iii. c. 2.) Natural magic, the doctrine of fascination, the discovery of futurity from dreams and ecstacies, especially in bad health from death-bed glimpses—[illegible], divination—he holds to be branches of science deserving of cultivation, though he warns against sorcery, or the practice of witchcraft.—(Ib. lib. iv. c. 3, and lib. ii. c. 2.)

† He complains of treatises of Natural History being "swelled

never have suffered that the veneration due to his own name should enshrine an idol* to obstruct the progress of truth, and alienate her votaries from the true worship which he himself had founded.

That Lord Bacon has not himself indulged in any speculations akin to those of Natural Theology is, beyond all dispute, true. There is hardly any writer upon moral or natural science, in whose works fewer references can be found to the power or wisdom of a superintending Providence. It would be difficult to find in any other author, ancient or modern, as much of very miscellaneous matter upon almost all physical subjects as he has brought together in the *Sylva Sylvarum*, without one allusion to Final Causes. But it must also be admitted, that it would not be easy to find in any other writer of the first name upon physical subjects so little of value, and so much that is wholly unworthy of respect. That work is, indeed, a striking instance of the inequalities of the human

matter, instead of being ... tions.—D. D.g. lib. ii. c. 3.)

* Idolum theatri.

faculties. Among the one thousand observations of which it consists, hardly one—of the two hundred and eighteen pages certainly not one—can be found in which there is not some instance of credulity, superstition, groundless hypothesis, manifest error of some kind or other; and nothing at any time given to the world ever exhibited a more entire disregard of all his own rules of philosophizing: for a superficial examination of facts, a hasty induction, and a proneness to fanciful theory, form the distinguishing characters of the whole book. Assuredly it is a proof that the doctrine of Final Causes is not the only parent of a "phantastic philosophy," though the other base undergrowth of "heretical religion" may not be found in the recesses of the Sylva.

Descartes, whose original genius for the ab- [illegible] sciences fixed an æra in the history of pure

[illegible] Thus [illegible] Nov. [illegible] aph. 65 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] speculations [illegible] [illegible] moda et pericula [illegible] tum religioni, tum philosophiæ impendent, utpote qui religionem hæreticam procudit et philosophiam phantasticam et superstitiosam."

mathematics, as remarkable as Bacon's genius did in that of logic, like him failed egregiously as a cultivator of natural philosophy; and he excluded Final Causes altogether from his system as a preposterous speculation—an irreverent attempt to penetrate mysteries hidden from human eyes by the imperfection of our nature. But it is to be observed, that all the successful cultivators of physical science have, as if under the influence of an irresistible impulsion, indulged in the sublime contemplations of Natural Religion. Nor have they fallen into this track from feeling and sentiment [illegible] as one of the paths which inductive philosophy opens to the student of nature. To say nothing of Mr. Boyle, one of the earliest cultivators of experimental philosophy, whose works are throughout embued with this spirit, and who has left a treatise expressly on the subject of Final Causes, let us listen to the words of Sir Isaac Newton himself. The greatest work of man, the Principia, closes with a swift transition from its most difficult investigation, the determination and correction of a comet's trajectory upon the parabolic hypothesis,* to that

* Principia, lib. iii., Prop. xli. and xlii.

celebrated scholium, upon which D[illegible]

argument [illegible] for [illegible]

built. But what [illegible]

ness of that [illegible]

the eloquent [illegible]

[illegible]tion, [illegible]

[illegible] our at[illegible]

[illegible]

SECTION VII.

[illegible]C ARRANGEMENT, AND THE METHODS ANALYSIS AND SYNTHESIS.

[illegible]hat Natural Theology [illegible] a branch [illegible] partly phys[illegible] intel- [illegible]s of comp[illegible] [illegible]her o[illegible]

[illegible]

[illegible] verse, without raising [illegible] mind [illegible] contemplation of Him who [illegible] the mountains in scales and [illegible] could he pursue the more minute operations of the most subtile material agent, without again

wards Him who said "Let there be
he most exquisite investigation ever
laws of nature by the
its latter portion
ines of Natu-
hat the busi-
educe causes
ery First Cause,"
iat "eve p made in inductive
philosophy is to y valued, because it
brings us nearer t irst Cause."*

* Optics, Book iii. Query 28.—"How came the bodies of animals to be contrived with so much art, and for what ends were the several parts? Was the eye contrived without skill in optics, and the ear without knowledge of sound?" (See, too, Query 31.)

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SECTION VII.

OF SCIENTIFIC ARRANGEMENT, AND THE METHODS OF ANALYSIS AND SYNTHESIS.

HAVING shown that Natural Theology is a branch of inductive science—partly physical, partly intellectual and moral—it is of comparatively little importance to inquire whether or not it can be kept apart from the other branches of those sciences. In one view of this question we may say, that there is no more ground for the separation than there would be for making a distinct science of all the propositions in Natural Philosophy [illegible] immediately relate to the [illegible]—whereby we should have pneumatics, optics, chemistry, electricity, and of human anatomy and pathology as contradistinguished from comparative, reduced under one and the same head—a classification, indeed, resembling Lord Bacon's. But in reality and as it seems, the more just view, there is a sufficient number of resemblances and differences, and the importance

of the subject is sufficient, to justify the making a separate head of Natural Theology. The question is entirely one of convenience; nothing of essential moment turns upon the classification; and there is obviously an advantage in having the truths collected in one body, though they are culled from the various parts of Physical and Metaphysical science to which they naturally belong. All that is needful is, constantly to keep in mind the identity of the evidence on which these truths rest with that which is the groundwork of those other parts of philosophy.

Although, however, convenience and the paramount importance of the subject seem to require such a separation, it is manifest that much of theology must still be found intermingled with physics and psychology, and there only; for the truths of Natural Theology being sufficiently demonstrated by a certain induction of facts—a certain number of experiments and observations—no further proof is required; and to assemble [illegible] would be only [illegible] proofs, [illegible] would [illegible] complete, as every day is adding to the instances discovered

of design appearing in the phenomena of the natural and moral world. It has been said, indeed, that a single well-established proof of design is enough, and that no additional strength is gained to the argument by multiplying the instances. We shall afterwards show with what limitations this proposition is to be received; but for our present purpose it is sufficient, that, at all events, a certain definite number of instances are of force enough to work out the demonstration; and yet in every branch of physics and psychology new instances are presented at each step we make. These instances are of great importance; they are to be carefully noted and treasured up; they form most valuable parts of those scientific inquiries, conveying, in its purest form and in its highest degree, the gratification of contemplating abstract truths, in which consists the whole of the pleasure derived from science, properly so called—that is, from science as such, and as independent of its application to uses or enjoyments of a corporeal kind.

An apprehension has frequently been entertained by learned [illegible] even of a truly philosophical spirit—lest the natural desire of

tracing design in the works of nature should carry inquirers too far, and lead them to give scope to their imagination rather than contain their speculations within the bounds of strict reasoning. They have dreaded the introduction of what Lord Bacon calls a "phantastic philosophy," and have also felt alarm at the injuries which religion may receive from being exposed to ridicule, in the event of the speculations proving groundless upon a closer examination. But it does not appear reasonable that philosophers should be deterred by such considerations from anxiously investigating the subject of Final Causes, and giving it the place which belongs to it in all their inquiries; provided that they do not suffer fancy to intermix with and disturb their speculations. If they do, they commit the greatest error of which reasoners can be guilty—an error against which it is the very object of inductive philosophy to guard; but it is no more an error in this than in the other investigations of science. He who imagines design where there is none, who either [illegible] an [illegible] from admitted facts [illegible] such an inference fancifully,

and not logically, comes within the description of a false philosopher: he prefers the hypothetical to the inductive method; he cannot say with his master, "*hypotheses non fingo;*"* he renounces the modern, and recurs to the exploded modes of philosophising. But he is not the more a false philosopher, and does not the more sin against the light of improved science, for committing the offence in the pursuit of theological truth. He would have been liable to the same charge if he had resorted to his fancy instead of observation and experiment while in search of any other scientific truth, or had hypothetically assumed a principle of classifying admitted phenomena, instead of rigorously deducing it from examining their circumstances of resemblance and of diversity.

That any serious discredit can be brought upon the science of Natural Theology itself, from the failures to which such hypothetical reasonings may lead, seems not very easy [illegible] and superficial minds may take [illegible] their [illegible] and the chemist [illegible] the theologian, when they chance [illegible]

* Duncan, lib. iii. Selec. Gen.

truth. Yet no one ever thought of being discouraged from experimental inquiries, because even the strictest prosecution of the inductive method cannot always guard against error. It is of the essence of all investigations of merely contingent truth, that they are exposed to casualties which do not beset the paths of the geometrician and the analyst. A conclusion from one induction of facts may be well warranted until a larger induction obliges us to abandon it, and adopt another. Yet no one deems chemistry discredited because a body considered in one state of our knowledge to be a compound acid has since appeared rather to be a simple substance, bearing to the acids no resemblance in its composition; nor would the optical discoveries of Sir Isaac Newton be discredited, much less the science he cultivated be degraded, if the undulatory hypothesis should, on a fuller inquiry, become established by strict proof. Yet such errors, or rather such imperfect and partial views, were the result of a strict obedience to the inductive rules of philosophizing. How much less ground for cavil against either those rules, or the sciences to which they are applicable, would be afforded by the observations of

those who had mistaken their way through a neglect of inductive principle, and by following blindly false guides!

While then, on the one hand, we allow Natural Theology to form a distinct head or branch, the other sciences must of necessity continue to class its truths among their own; and thus every science may be stated to consist of *three* divisions—1. The truths which it teaches relative to the constitution and action of matter or of mind;—2. The truths which it teaches relative to theology; and 3. The application of both classes of truths to practical uses, physical or moral. Thus, the science of pneumatics teaches, under the *first* head, the doctrine of the pressure of the atmosphere, and its connexion with respiration, and with the suspension of weights by the formation of a vacuum. Under the *second* head it shows the adaptation of the lungs of certain animals to breathe the air, and the fact of other animals having hollow bodies, in consequence of both being framed in accordance with the former doctrine—that is with the law of pressure—and thus demonstrates a wise and beneficent design. Under the *third* head it teaches the construction of barometers, steam-engines, &c.,

while the contemplation of the Divine wisdom and goodness inculcates piety, patience, and hope.

But it may be said, that in this classification of the objects of science, we omit one ordinarily reckoned essential—the explanation of phenomena. The answer is, that such a classification is not strictly accurate, as no definite line can be drawn between the explanation of phenomena and the analytical process by which the truths themselves are established; in a word, between analysis and synthesis in the sciences of contingent truth. For the same phenomena, which form the materials of the analytical investigation, the steps that lead us to the proposition or discovery—would, in a reversed order, become the subjects of the synthetical operation: that is, the things to be explained by means of the proposition or discovery, if we had been led to it by another route; in other words, if we had reached it by means of other phenomena of the like kind, referrible to the same class, and [illegible] the same principle [illegible] upon the pris- [illegible] to the com- [illegible] of rays of [illegible] refrangibility. This

being demonstrated, we may explain by means of it the phenomena which form the proofs of the first proposition of the "*Optics*," that lights which differ in colour differ in refrangibility—as that a parallelogram of two colours refracted through a prism has its sides no longer parallel; or, having shown the different refrangibility by the prismatic phenomena, we may explain why a lens has the focus of violet rays nearer than the focus of red, while this experiment is of itself one of the most cogent proofs of the different refrangibility. It is plain that, in these cases, the same phenomenon may be made indiscriminately the subject matter either of analysis or synthesis. So, one of the proofs given of latent heat is, that after you heat a bar of iron once or twice by hammering it, the power of being thus heated is exhausted until by exposing it to the fire [illegible] et, suppose we had proved [illegible] the absorption of heat by other experiments—as by effects on the thermometer of liquids of different temperatures mixed together—[illegible] of the iron bar would be explicable [illegible] trine thus [illegible]. Again, another proof of the same truth is the production of heat by the sudden

condensation of gaseous fluids, and of cold by evaporation, the evolution of heat being inferred from the former, and its absorption from the latter operation. But if the experiments upon the mixture of fluids of different temperatures, and other facts, had sufficiently proved the disappearance of heat in its sensible form, and its being held in a state in which it did not affect the thermometer, we should by means of that doctrine have been able to account for the refrigerating effect of evaporation, and the heating power of condensation.

It cannot, then, be a real and an accurate distinction, or one founded on the nature of the thing, which depends on the accident of the one set of facts having been chosen for the instruments of the analytical, and the other set for the subjects of the synthetical operation, each set being alike applicable to either use. For, in order that the synthesis may be correct, nay, in order that it may be strict and not hypothetical, it is obviously necessary [illegible] should be of such a de[illegible] [illegible] the operation [illegible] the [illegible]ralization of particulars—the arranging or classifying

facts so as to obtain a more general or comprehensive fact; and the explanation of phenomena is just as much a process of generalization or classification as the investigation of the proposition itself, by means of which you are to give the explanation. We do not perform two operations, but one, in these investigations. We do not in reality first find by the prism that light is differently refrangible, and then explain the rainbow—or show by the air-pump that the atmosphere presses with the weight of so many pounds upon a square foot, and then explain the steam-engine and the fly's foot—or prove, by burning the two weighed gases together and burning iron in one of them, that water is composed of them both, and that rust is the metal combined with one, and then explain why iron rusts in water. But we observe all [illegible] facts, and find that they are [illegible] and resolvable into three [illegible]—that the [illegible] prism and [illegible] flower are [illegible] spectrum and the rainbow being varieties of the same fact, more general than either, and comprehending many others, all reducible within its compass—that the air-pump, the steam-engine, the fly's foot,

are all the same fact, and come within a description still more general and compendious—that the rusting of iron, the burning of inflammable air, and the partial consumption of the blood in the lungs, are likewise the same fact in different shapes, and resolvable into a fact much more comprehensive.

If, then, the distinction of investigation and explanation, or the analytical and synthetical process, is to be retained, it can only be nominal; and it is productive of but little if any convenience. On the contrary, it is calculated to introduce inaccurate habits of philosophising, and holds out a temptation to hypothetical reasoning. Having obtained a general law, or theory, we are prone to apply it where no induction shows that it is applicable; and perceiving that it would account for the observed phenomena, if certain things existed, we are apt to assume their existence, that we may apply our explanation. Thus we know, that if the walrus's foot, or the fly's, make a vacuum, the pressure of the air will support the animal's weight; and [illegible] we assume [illegible] the vacuum is made, [illegible] it is clear that we have [illegible] right whatever to do so; and that the strict rule,

of induction require us to prove the vacuum before we can arrange this fact in the same class with the other instances of atmospheric pressure. But when we have proved it by observation, it will be said we have gained nothing by our general doctrine. True; but all that the science entitles us to do is, not to draw facts we are half acquainted with under the arbitrary sway of our rule, but to examine each fact in all its parts, and bring it legitimately within the rule by means of its ascertained resemblances—that is, classify it with those others to which it bears the common relation. Induction gives us the right to expect that the same result will always happen from the same action operating in like circumstances; but it is of the essence of this inference that the similarity be first shown.

It may be [illegible] as it is [illegible] leads to an exceeding[illegible] The fundamental rule of induction [illegible] no hypothesis shall be admitted—that nothing shall be assumed merely because, if true, it would explain the facts. Thus the magnetic theory of Æpinus is admitted by all to be admirably con-

sistent with itself, and to explain all the phenomena—that is, to tally exactly with the facts observed. But there is no proof at all of the accumulation of electrical or magnetic fluid at the one pole, and other fundamental positions; on the contrary, the facts are rather against them: therefore, the theory is purely gratuitous; and although it would be difficult to find any other, on any subject, more beautiful in itself, or more consistent with all the phenomena, it is universally rejected as a mere hypothesis, of no use or value in scientific research. The inductive method consists in only admitting those things which the facts prove to be true, and excludes the supposing things merely because they square with the facts. Whoever makes such suppositions upon observing a certain number of facts, and then varies those suppositions when new facts come to his knowledge, so as to make the theory tally with the observation—whoever thus goes on touching and retouching his theory each time a new fact is observed which does not fall within the original proposition, is a mere framer of hypotheses, not an inductive inquirer—a fancier, and not a philosopher.

Now, this being the undoubted rule, does not the course of those fall exactly within it, who, having upon a certain class of phenomena, built a conclusion legitimately and by strict induction, employ that conclusion to explain other phenomena, which they have not previously shown to fall within the same description? Take the example of the Torricellian vacuum. Having by that experiment proved the weight of the atmosphere, we have a right to conclude that a tube filled with water forty feet high would have a vacuum in the uppermost seven feet—because we know the relative specific gravities of water and mercury, and might predict from thence that the lighter fluid would stand at the height of thirty-three feet; and this conclusion we have a right to draw, without any experiment as to the existence of a vacuum in the [illegible] But we should [illegible] draw this conclusion, without ascertaining the specific gravities of the two fluids; for if we did, it would be assuming that the two facts belonged to the same class. So respecting the power of the walrus or the fly to walk up a vertical plane. We know the effects of exhausting the air between any two bodies,

and leaving the external atmosphere to press against them: they will cohere. But if from thence we explain the support given to the walrus or the fly without examining their feet, and ascertaining that they do exhaust or press out the air—if, in short, we assume the existence of a vacuum under their feet, merely because were there a vacuum the pressure of the air would produce the cohesion, and thus account for the phenomena—we really only propound a hypothesis. We suppose certain circumstances to exist, in order to classify the fact with other facts actually observed, and the existence of which circumstances is necessary, in order that the phenomena may be reducible under the same head.

There is no reason whatever for asserting that this view of the subject [illegible] the use of induction by requiring too close and constant a reference to actual observation. The inductive principle is this—that from observing a number of [illegible] see reason to observe the same [illegible] a certain thing to happen [illegible] expect the same thing to happen [illegible] circumstances. This is to generalize; but [illegible] this assumes that we

first show the identity of the facts, by proving the similarity of the circumstances. If not, we suppose or fancy, and do not reason or generalize. The tendency of the doctrine that a proposition being demonstrated by one set of facts, may be used to explain another set, has the effect of making us suppose or assume the identity or resemblance which ought to be proved. The true principle is, that induction is the generalizing or classifying of facts by observed resemblances and dissimilitudes.

Nothing here stated has any tendency to shackle our experimental inquiries by too rigidly narrowing the proof. Thus, although we are not allowed to suppose any thing merely because, if it existed, other things would be explained; yet, when [illegible] will account for the appearances [illegible] no longer gratuitous, and [illegible] happens, that an inference drawn from an imperfect induction, and which would be, on that state of the facts, unauthorized because equivocal and not the only supposition on which the facts could be explained, becomes legitimate on a further induction, whereby we show that, though the facts first observed might

be explained by some other supposition, yet those facts newly observed could to no other supposition be reconciled. Thus, the analytical experiment on the constitution of water, by passing steam over red hot iron, is not conclusive, because, although it tallies well with the position that water consists of oxygen and hydrogen, yet it would also tally with another supposition, that those gases were produced in the process and not merely separated from each other; so that neither oxygen nor hydrogen existed in the water any more than acid and water exist in coal and wood, but only their elements, and that, like the acid and water, the products of the destructive distillation of those vegetable substances, the oxygen and hydrogen, were compounded and in fact produced by this process. But when, besides the analytical [illegible] these analytical experiments of Mr. Cavendish and Dr. Priestley*—

* Dr. Priestley drew no conclusion of the least value from his experiments. But Mr. Watt, after thoroughly examining them, by careful comparison with other facts, arrived at the conclusion that they proved the composition of water. This may justly be said to have been the discovery of that great truth in chemical science. I have examined the evidence, and am convinced that he was the first discoverer, in point of time, although it is very possible that

when we find that by burning the two gases in a close vessel, they disappear, and leave a weight of water equal to their united weights—we have a fact not reconcilable to any other supposition, except that of the composition of this fluid. It is as when, in solving a problem, we fix upon a point in one line, curved or straight, because it answers one of the conditions—it may be the right point, or it may not, for all the other points of the line equally answer that condition; but when we also show that the remaining conditions require the point to be in another line, and that this other intersects the former in the very point we had assumed, then no doubt can exist, and the point is evidently the one required, none other fulfilling all the conditions.

We have used the words *analytical* and *synthetical* as applicable to the experiments of resolution [illegible] in this sense these terms are [illegible] correct in [illegible] operations [illegible] the use of [illegible] and [illegible] as applicable to [illegible] of

Mr. Cavendish may have arrived at the same truth from his own experiments, without any knowledge of Mr. Watt's earlier process of reasoning.

induction—the former being the investigation of truths by experiment or observation, and the latter the explaining other facts by means of the truths so ascertained—is by no means so correct, and rests upon an extremely fallacious analogy, if there be indeed any analogy, for identity, or even resemblance, there is none. The terms are borrowed from mathematical science, where they denote the two kinds of investigation employed in solving problems and investigating theorems. When, in order to solve a problem, we suppose a thing done which we know not how to do, we reason upon the assumption that the prescribed conditions have been complied with, and proceed till we find something which we already possess the means of doing. This gives us the construction; and the synthetical demonstration consists in merely retracing the steps of the analysis. And so of a theorem: we assume it to be true, and reasoning on that assumption, we are led to something which we know from other sources to be true, the synthesis being the same operation reversed. The two operations consist here, of manifest necessity, of the very same steps—the one being the steps of the other taken in the reverse order. In

Physics, to make the operations similar to these, the same facts should be the ground or component parts of both. In analysis, we should ascend not only from particulars to generals, but from the same particulars, and then the synthesis would be a descent through the same steps to the particular phenomena from the general fact. But it is a spurious synthesis, unlike the mathematical, and not warranted by induction, to prove the proposition by one set of facts, and by that proposition to explain—that is, classify—another set, without examining it by itself. If we do examine it by itself, and find that it is such as the proposition applies to, then also is it such as might prove the proposition; and the synthesis is here, as in the case of the mathematical investigation, the analysis reversed. As far as any resemblance or analogy goes, there is even a greater affinity between the inductive analysis and the geometrical synthesis, than between those operations which go by the same name; and I hardly know anything in experimental investigation resembling the mathematical analysis, unless it be when, from observing certain facts, we assume a position, and then infer, that if this be true, some other facts

must also exist, which we find (from other proofs) really do exist. This bears a resemblance rather to the analytical investigation than to the composition or synthetical demonstration of theorems in the ancient geometry. It is not the course of reasoning frequently pursued in experimental sciences; but a most beautiful example of it occurs in the Second Part of Dr. Black's experiments on Magnesia Alba and Quick Lime, the foundation of the modern gaseous chemistry.

Upon the whole, the use of these terms is apt to mislead; and, for the reasons which have been assigned, there seems no solidity in the division of inductive inquiry into the two classes.*

* When this section was written, I had not seen Mr. Stewart's learned remarks upon analysis and synthesis in the second volume of his Elements, nor was aware of the observations of Dr. Hook, quoted by him, and which show a remarkable coincidence with one of the observations in the text. Mr. Stewart's speculations do not come upon the same ground with mine; but Dr. Hook having reversed the use of the terms analysis and synthesis in experimental science, affords a strong confirmation of the remark which I have ventured to make upon the inaccuracy of this application of mathematical terms.—(See Elem. of [illegible] on Mind, [illegible] etc.)

PART THE SECOND.

OF THE ADVANTAGES OF THE STUDY OF NATURAL THEOLOGY.

THE uses of studying the science to which our inquiries have been directed now demand some consideration. These consist of the pleasures which attend all scientific pursuits, the pleasures and the improvement peculiar to the study of Natural Theology, and the service rendered by this study to the doctrines of Revelation.

SECTION I.

OF THE PLEASURES OF SCIENCE.

As we have established the position that Natural Theology is a branch of Inductive Science, it follows that its truths are calculated to bestow the same kind of gratification which the investi-

gation and the contemplation of scientific truth generally is fitted to give.

That there is a positive pleasure in such researches and such views, wholly independent of any regard to the advantages derived from their application to the aid of man in his physical necessities, is quite undeniable. The ascertaining by demonstration any of the great truths in the mathematics, or proving by experiment any of the important properties of matter, would give a real and solid pleasure, even were it certain that no practical use could be made of either the one or the other. To know that the square of the hypothenuse is always exactly equal to the sum of the squares of the sides of a right-angled triangle, whatever be its size, and whatever the magnitude of the acute angles, is pleasing; and to be able to trace the steps by which the absolute certainty of this proposition is established is gratifying, even if we were wholly ignorant that the art of guiding a ship through the pathless ocean mainly depends upon it. Accordingly we derive pleasure from rising to the contemplation of the much more general truth, of which the discovery of Pythagoras (the 47th proposition of

the First Book of Euclid) is but a particular case, and which is also applicable to all similar triangles, and indeed to circles and ellipses also, described on the right-angled triangle's sides; and yet that general proposition is of no use in navigation, nor indeed in any other practical art. In like manner, the pleasure derived from ascertaining that the pressure of the air and the creation of a vacuum alike cause the rise of the mercury in the barometer, and give the power to flies of walking on the ceiling of a room, is wholly independent of any practical use obtained from the discovery, inasmuch as it is a pleasure superadded to that of contemplating the doctrine proved by the Torricellian experiment, which had conferred all its practical benefits long before the cause of the fly's power was found out. Thus again it is one of the most sublime truths in science, and the contemplation of which, as mere contemplation, affords the greatest pleasure, that the same power which makes a stone fall to the ground keeps the planets in their course, [illegible] of those heavenly bodies into [illegible] and reduces to perfect order [illegible] of the

system: so that the handful of sand which for an instant ruffles the surface of the lake, acts by the same law which governs, through myriads of ages, the mighty system composed of myriads of worlds. There is a positive pleasure in generalizing facts and arguments—in perceiving the wonderful production of most unlike results from a few very simple principles—in finding the same powers or agents re-appearing in different situations, and producing the most diverse and unexpected effects—in tracing unexpected resemblances and differences—in ascertaining that truths or facts apparently unlike are of the same nature, and observing wherein those apparently similar are various: and this pleasure is quite independent of all considerations relating to practical application; nay, the additional knowledge that those truths are susceptible of a beneficial application gives a further gratification of the like kind to those who are certain never to have the opportunity of sharing the benefits obtained, and who indeed may earnestly desire never to be in the condition of being able to share them. Thus, in addition to the pleasure received from contemplating a truth in animal physiology, we have

another gratification from finding that one of its corollaries is the construction of an instrument useful in some painful surgical operation. Yet, assuredly, we have no desire ever to receive advantage from this corollary; and our scientific gratification was wholly without regard to any such view. In truth, generalizing—the discovery of remote analogies—of resemblances among unlike objects—forms one of the most pleasing employments of our faculties in every department of mental exertion, from the most severe investigation of the mathematician to the lightest efforts of the wit. To trace the same equality, or other relation, between figures apparently unlike, is the chief glory of the geometrician; to bring together ideas of the most opposite description, and show them in unexpected, yet when suddenly pointed out, undeniable connexion, is the very definition of wit. Nay, the proposition which we have just enunciated is a striking instance of the same general truth; for we have been surveying the resemblance, or rather the identity, in one important particular of two pursuits, in all other respects the most widely remote from each other —mathematics and wit.

If the mere contemplation of scientific truth is the source of real gratification, there is another pleasure, alike remote from all reference to practical use or benefit, and which is obtained by tracing the investigations and demonstration—the steps that lead analytically to the discovery, and synthetically to the proof of those truths. This is a source of pleasure, both by giving us the assurance that the propositions of generalization —the statements of resemblance and diversity— are true in themselves, and also by the consciousness of power which it imparts, and the feeling of difficulty overcome which it involves. We feel gratified when we have closely followed the brilliant induction which led Newton to the discovery that white is the union of all colours, and when we have accompanied him in the series of profound researches, from the invention of a new calculus or instrument of investigation, through innumerable original geometrical lemmas, to the final demonstration that the force of gravitation deflects the comet from the tangent of its elliptical orbit; and we feel the gratification, because the pursuit of these investigations assures us that the marvellous propositions are indeed true—

because there is a consciousness of man's power in being able to penetrate so far into the secrets of nature, and search so far into the structure of the universe—and because there is a pleasure, which we enjoy individually, in having accomplished a task of considerable difficulty. In these gratifications, derived from the contemplation and the investigation of general laws, consists the Pleasure of Science properly so called, and apart from all views of deriving particular advantages from its application to man's use.

This pleasure is increased as often as we find that any scientific discovery is susceptible of practical applications. The contemplation of this adaptation is pleasing, independent of any regard to our own individual advantage, and even though we may desire never to be in a condition to reap benefit from it. We sympathize, perhaps, with those who may be so unfortunate as to require the aid afforded by such application to relieve and assuage pain; but the mere knowledge that such a corollary follows from the discovery of the scientific truth is pleasing. Of course the gratification is increased, if we know that individually we shall profit by it, and we may per-

haps always more or less contemplate this possi-
lity; but this is a pleasure, properly speaking, of
a different kind from that which science, as such,
bestows.

The branch of science which we are here parti-
cularly considering differs in no respect from the
other departments of philosophy in the kind of gra-
tification which it affords to those who cultivate it.
Natural Theology, like the other sciences whether
physical or mental, bestows upon
pleasures of contemplation — of
and it bestows this pleasure in an
To trace design in the
operations of nature
derstanding,
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This plea[illegible] that any sc[illegible] tical applications. [illegible] adaptation is pleasing, ind[illegible] gard to our own individual advantag[illegible] though we may desire never to be [illegible] dition to reap benefit from it. We sy[illegible] perhaps, with those who may be so unfo[illegible] as to require the aid afforded by such application to relieve and assuage pain; but the mere knowledge that such a corollary follows from the discovery of the scientific truth is pleasing. Of course the gratification is increased, if we know that individually we shall profit by it, and we may per-

complained of as evils, fill us afterwards with contentment and delight, when we find that they are subservient to the most important and beneficial uses. Thus inflammation and the generation of matter in a wound we find to be the effort which Nature makes to produce new flesh, and effect the cure; the opposite hinges of the valves in the veins and arteries are the means of enabling the blood to circulate; and so of innumerable other arrangements of the animal economy. So, too, there is the highest gratification derived from observing that there is a perfect unity, or, as it has been called, a *personality*, in the kind of the contrivances in which the universe abounds; and truly this peculiarity of character or of manner, as other writers have termed it, affords the same species of pleasure which we derive from contemplating general resemblances in the other sciences.

We may close this branch of the subject with the observation that those other sciences have often in their turn derived aid from Natural Theology, at least from the speculation of Final Causes, for which they, generally speaking, lay the foundation. Many discoveries in the physiology both of animals and plants owe their origin

to some arrangement or structure being remarked, the peculiar object of which was not known, and the ascertaining of which led to the knowledge of an important truth. The well-known anecdote of Harvey related by Mr. Boyle is the best example of this which can be given. In his tract on Final Causes he thus writes:—"I remember that when I asked our famous Harvey, in the only discourse I had with him, (which was but a while before he died,) what were the things that induced him to think of a circulation of the blood, he answered me, that when he took notice that the valves in the veins of so many parts of the body were so placed that they gave free passage to the blood towards the heart, but opposed the passage of the venal blood the contrary way, he was incited to imagine that so provident a cause as Nature had not so placed so many valves without design, and no design seemed more probable than that since the blood could not well, because of the interposing valves, be sent by the veins to the limbs, it should be sent through the arteries, and return through the veins whose valves did not oppose its course that way."* Even the

* Disquisition about the Final Causes of Natural Things.—Works, vol. v., p. 387, 8vo.

arts have borrowed from the observation of the animal economy. Those valves—the hollow bones of birds—the sockets of the joints—have all furnished suggestions upon which some of our most useful machinery is constructed. Nor can any abuse arise from this employment of the argument, so long as we take care only to let it occupy the subordinate place of a suggestor—an originator of inquiry—and never suffer it to usurp the station of a sole guide, or a substitute for that induction which alone can be relied on in forming our conclusions. The ancients were ignorant of this caution, and would probably have rested satisfied with the consideration which only set Harvey upon making experiments, instead of proving in this way what the argument from Final Causes only rendered probable. Hence much of what, as we have already explained, Lord Bacon has said upon the subject of this speculation, abused as it certainly has been in all ages, but especially in ancient times.

SECTION II.

OF THE PLEASURE AND IMPROVEMENT PECULIAR TO NATURAL THEOLOGY.

HITHERTO we have only shown that the gratification which the contemplation of scientific truth is calculated to bestow belongs to Natural Theology in common with the other branches of Philosophy. But there are several considerations which make it plain that the pleasure must be greater which flows from the speculations of this than any which the other sciences confer.

In the *first* place, the nature of the truths with which Natural Theology is conversant is to be considered. They relate to the evidences of design, of contrivance, of power, of wisdom, of goodness—but let us only say, of design or contrivance. Nothing can be more gratifying to the mind than such contemplations: they afford great scope to the reasoning powers; they exercise the resources of our ingenuity; they give a

new aspect to the most ordinary appearances; they impart life as it were to dead matter; they are continually surprising us with novel and unexpected proofs of intentions plainly directed to a manifest object. If some scoffers and superficial persons despise the enthusiasm with which these investigations have at times been pursued, and hold the exercise given by them to the ingenuity of inquirers to be rather a play of imagination than of reasoning, it is equally undeniable, that in some of the most important and most practically useful of the sciences, design, so far from being a matter of fanciful conjecture, is always assumed as incontestable, and the inquiry, often with a merely practical view, is confined to discovering what the object of the design is. Thus, when the physiologist has discovered some part of the animal body before unknown, or observed some new operation of the known organs, he never doubts that design exists, and that some end is to be answered. This he takes for granted without any reasoning: and he only endeavours to find out what the purpose is—what use the part can have—what end the operation is intended to accomplish; never supposing it pos-

sible that either the part could be created, or the function appointed, without an object. The investigation conducted upon the assumption of this postulate has frequently led to the most brilliant discoveries—among others, as we have just seen, to by far the most important ever made in physiological science. For the mere exercise of the intellectual faculties, or gratification of scientific curiosity, we may refer to almost all the singular phenomena which form the bases of the reasonings as to design—the structure of the ear, and still more of the eye—the circulation of the blood—the physiology of the fœtus in the uterus, as contrasted with the economy of the born animal, and the prospective contrivances of a system which until the birth is to be wholly useless—the structure of the eye and the nictitating membrane in different birds, and the haw in certain quadrupeds—the powers of the eye in birds of prey—perhaps more than any thing else, the construction of their cells by bees, according to the most certain principles discovered by men only with the help of the most refined analytical calculus. The atheist can only deny the wonderful nature of such operations of instinct by the violent assump-

tion that the bee works as the heavenly bodies roll, and that its mathematically correct operations are no more to be wondered at than the equally mathematically adjusted movements of the planets—a truly violent assumption, and especially of those who angrily deny that men have a soul differing in kind from the sentient principle in the lower animals.

Secondly. The universal recurrence of the facts on which Natural Theology rests deserves to be regarded as increasing the interest of this science. The other sciences, those of Physics at least, are studied only when we withdraw from all ordinary pursuits, and give up our meditations to them. Those which can only be prosecuted by means of experiment can never be studied at all without some act of our own to alter the existing state of things, and place nature in circumstances which force her by a kind of question, as Lord Bacon phrases it, to reveal her secrets. Even the sciences which depend on observation have their fields spread only here and there, hardly ever lying in our way, and not always accessible when we would go out of our way to walk in them. But there is no place where the evidences

of Natural Religion are not distributed in ample measure. It is equally true that those evidences continually meet us in all the other branches of science. A discovery made in these almost certainly involves some new proofs of design in the formation and government of the universe.

Thirdly and chiefly. Natural Theology stands far above all other sciences from the sublime and elevating nature of its objects. It tells of the creation of all things—of the mighty power that fashioned and that sustains the universe—of the exquisite skill that contrived the wings and beak, and feet of insects invisible to the naked eye—and that lighted the lamp of day, and launched into space comets a thousand times larger than the earth, whirling a million of times swifter than a cannon ball, and burning with a heat which a thousand centuries could not quench. It exceeds the bounds of material existence, and raises us from the creation to the Author of Nature. Its office is, not only to mark what things are, but for what purpose they were made by the infinite wisdom of an all-powerful being, with whose existence and attributes its high prerogative is to bring us acquainted. If we prize, and justly

delightful contemplations of the other sciences; if we hold it a marvellous gratification to have ascertained exactly the swiftness of the remotest planets—the number of grains that a piece of lead would weigh at their surfaces—and the degree in which each has become flattened in shape by revolving on its axis; it is surely a yet more noble employment of our faculties, and a still higher privilege of our nature, humbly, but confidently, to ascend from the universe to its Great First Cause, and investigate the unity, the personality, the intentions, as well as the matchless skill and mighty power of Him who made and sustains and moves those prodigious bodies, and all that inhabit them.

Now, all the gratification of which we have been treating is purely scientific, and wholly independent of any views of practical benefit resulting from the science of Natural Theology. The pleasure in question is merely that double gratification which every science bestows—namely, the contemplation of truth, in tracing resemblances and differences, and the perception of the evidence by which that truth is established. Natural Theology gives this double pleasure, like all

other branches of science—like the mathematics —like physics—and would give it if we were beings of an order different from man, and whose destinies never could be affected by the truth or the falsehood of the doctrines in question. Nay, we may put a still stronger case, one analogous to the instance given above of the pleasure derived from contemplating some fine invention of a surgical instrument. Persons of such lives as should make it extremely desirable to them that there was no God, and no Future State, might very well, as philosophers, derive gratification from contemplating the truths of Natural Theology, and from following the chain of evidence by which these are established, and might, in such sublime meditation, find some solace to the pain which reflection upon the past and fears of the future are calculated to inflict upon them.

But it is equally certain that the science derives an interest incomparably greater from the consideration that we ourselves, who cultivate it, are most of all concerned in its truth—that our own highest destinies are involved in the results of the investigation. This, indeed, makes it, beyond all doubt, the most interesting of the

sciences, and sheds on the other branches of philosophy an interest beyond that which otherwise belongs to them, rendering them more attractive in proportion as they connect themselves with this grand branch of human knowledge, and are capable of being made subservient to its uses. See only in what contemplations the wisest of men end their most sublime inquiries! Mark where it is that a Newton finally reposes after piercing the thickest veil that envelopes nature —grasping and arresting in their course the most subtle of her elements and the swiftest—traversing the regions of boundless space—exploring worlds beyond the solar way—giving out the law which binds the universe in eternal order! He rests, as by an inevitable necessity, upon the contemplation of the great First Cause, and holds it his highest glory to have made the evidence of his existence, and the dispensations of his power and of his wisdom, better understood by men.

If such are the peculiar pleasures which appertain to this science, it seems to follow that those philosophers are mistaken who would restrict us to a very few demonstrations, to one or two instances of design, as sufficient proofs of the

Deity's power and skill in the creation of the world. That one sufficient proof of this kind is in a certain sense enough cannot be denied: a single such proof overthrows the dogmas of the atheist, and dispels the doubts of the sceptic; but is it enough to the gratification of the contemplative mind? The great multiplication of proofs undeniably strengthens our positions; nor can we ever affirm respecting the theorems in a science not of necessary but of contingent truth, that the evidence is sufficiently cogent without variety and repetition. But, independently altogether of this consideration, the gratification is renewed by each instance of design which we are led to contemplate. Each is different from the other. Each step renews our delight. The finding that at every step we make in one science, and with one object in view, a new proof is added to those before possessed by another science, affords a perpetual source of new interest and fresh enjoyment. This would be true if the science in question were one of an ordinary description. But when we consider what its nature is—how intimately connected with our highest concerns—how immediately and neces-

sarily leading to the religious adoration of the Supreme Being—can we doubt that the perpetually renewed proofs of his power, wisdom, and goodness tend to fix and to transport the mind, by the constant nourishment thus afforded to feelings of pure and rational devotion? It is, in truth, an exercise at once intellectual and moral, in which the highest faculties of the understanding and the warmest feelings of the heart alike partake, and in which not only without ceasing to be a philosopher the student feels as a man, but in which the more warmly his human feelings are excited, the more philosophically he handles the subject. What delight can be more elevating, more truly worthy of a rational creature's enjoyment, than to feel, wherever we tread the paths of scientific inquiry, new evidence springing up around our footsteps—new traces of divine intelligence and power meeting our eye! We are never alone; at least, like the old Roman, we are never less alone than in our solitude. We walk with the Deity; we commune with the great First Cause, who sustains at every instant what the word of his power made. The delight is renewed at each step of our progress, though as

far as evidence is concerned we have long ago had proof enough. But that is no more a reason for ceasing to contemplate the subject in its perpetually renovated and varied forms, than it would be a reason for resting satisfied with once seeing a long-lost friend, that his existence had been sufficiently proved by one interview. Thus, instead of restricting ourselves to the proofs alone required to refute atheism or remove scepticism, we should covet the indefinite multiplication of evidences of design and skill in the universe, as subservient in a threefold way to purposes of use and of gratification: *first*, as strengthening the foundation whereupon the system reposes; *secondly*, as conducive to the ordinary purposes of scientific gratification: each instance being a fresh renewal of that kind of enjoyment; and *thirdly*, as giving additional ground for devout, pleasing, and wholesome adoration of the Great First Cause who made and who sustains all nature.

It is, therefore, manifest that, instead of resting satisfied with details and reasons barely sufficient to prove the existence of design in the universe, the gratification of a laudable scientific curiosity, and the proper indulgence of rational devotion,

require that every occasion should be taken of exhibiting those evidences upon which the system of Natural Theology rests. The professed treatises upon that science do not suffice for this purpose, although they ought unquestionably to enter largely, and with very great variety of illustration, into the proofs; but each several branch of science, natural and moral, should have a constant reference to this, and should never fail to apply its peculiar doctrines towards the proof and the illustration of the doctrines of Natural Theology.

SECTION III.

OF THE CONNEXION BETWEEN NATURAL AND REVEALED RELIGION.

THE ordinary arguments against Natural Theology with which we have to contend are those of atheists and sceptics; of persons who deny the existence of a First Cause, or who involve the whole question in doubt; of persons who think they see a balance of reason for denying the existence of a Deity, or who consider the reasons on both sides as so equally poised that they cannot decide either way. An objection of a very different nature has sometimes proceeded, unexpectedly, from a very different quarter—the friends of Revelation—who have been known, without due reflection, to contend that by the light of unassisted reason we can know absolutely nothing of God and a Future State. They appear to be alarmed lest the progress of Natural Religion should prove dangerous to the acceptance of Revealed; lest the former should, as it were, be

taken as a substitute for the latter. They argue as if the two systems were rivals, and whatever credit the one gained, were so much lost to the other. They seem to think that if any discovery of a First Cause and another world were made by natural reason, it would no longer be true that "life and immortality were brought to light by the gospel." Although these reasoners are neither the most famous advocates of revelation, nor the most enlightened, we yet may do well to show the groundlessness of the alarms which they would excite.

1. In the *first* place, it is worthy of our consideration that the greatest advocates of Natural Theology have always been sincere and even zealous Christians. The names of Ray, Clarke, Derham, Keill, Paley, attest the truth of this assertion. None of these was likely to lend his support to any system, the evidence of which put the outworks of Christianity in jeopardy. Some of them, as Clarke and Paley, have signalized themselves as strenuous and able defenders of the truth of Revelation. Derham actually delivered his celebrated work on the great truths of Natural Theoloy as a series of sermons

preached in Bow Church, at a Lecture for the promotion of the Christian religion, founded by Mr. Boyle. At the same Lecture, in St. Paul's, was delivered Dr. Clarke's argument *à priori*, and indeed his whole "Evidence of Natural and Revealed Religion," as well as his "Demonstration of the Being and Attributes of God;" and Dr. Bentley, the first preacher upon that foundation, delivered in like manner as sermons his argument in favour of Natural Religion from the structure of the human mind, the animal body, and the universe at large.

This Lecture was expressly founded by Mr. Boyle in support of the Christian religion; and no reference to Natural Theology, apart from its uses in supporting Revelation, is to be found in the terms of the gift. The subject of the eight sermons is to be, in the words of the will, "The proof of the Christian religion against notorious infidels, viz. atheists, theists, Pagans, Jews, and Mahometans, not descending lower to any controversies that are among Christians themselves." Yet the great Christian divines whom we have named so construed these words as to include a proof of Natural Religion among the most essential

arguments for Christianity; and almost as many of the sermons preached at the Boyle Lecture, during the first forty years after its foundation, relate to the doctrines of Natural Theology as to those of Revelation. So far were the divines of that day from holding the two subjects as hostile to each other.*

2. But, *secondly*, Natural Theology is most serviceable to the support of revelation. All the soundest arguments in behalf of the latter presuppose the former to be admitted. Witness the profound work of Butler, his "Analogy of Natural and Revealed Religion to the Order of Nature," the most argumentative and philosophical defence of Christianity ever submitted to the world. But Lardner and Paley, and all other writers on the same side, abound in references to Natural Theology, and in the course of their reasonings assume its truth as postulates.

We may suppose that those practised controversialists and zealous Christians did not make

* If any one will read the vituperation rather than sermon against infidels with which Dr. Bentley commences his discourses upon Natural Religion, he will see no reason to doubt the zeal for Christianity of that most learned preacher.

such assumptions gratuitously. We may safely give them credit for not resting their case upon more postulates than the exigency of the argument required. Such a course, if unnecessary, would have been most unskilful, and might have proved dangerous by opening the door to new attacks. But they are not peculiar in their view of the subject. Boyle and Newton were as sincerely attached to Christianity as any men in any age, and they are likewise the most zealous advocates of Natural Religion. Lord Bacon, though imbued perhaps with a certain degree of prejudice on this subject, but of a philosophical and not a polemical origin, distinctly places the truth of Natural Religion at the entrance of theological study, and regards the evidences of Revelation as founded upon the previous demonstration of Natural Theology. "The latter," he says, "is the key of the former, and opens our understanding to the genuine spirit of the scriptures, but also unlocks our belief, so that we may enter upon the serious contemplation of the divine Power, the characters of which are so deeply graven in the works of the creation."* He elsewhere also lays

* De Dig. et Aug. lib. i.

it down as clear that atheism is to be refuted not by miracles but by the contemplation of nature, and accurately takes the distinction between Revelation and Natural Religion; that the former declares the will of God as to the worship most acceptable, while the latter teaches his existence and powers, but is silent as to a ritual.*

3. Accordingly we proceed a step farther, and assert, *thirdly*, that it is a vain and ignorant thing to suppose that Natural Theology is not necessary to the support of Revelation. The latter may be untrue, though the former be admitted. It may be proved, or allowed, that there is a God, though it be denied that he sent any message to man, through men or other intermediate agents; as indeed the Epicureans believed in the existence of the gods, but held them to keep wholly aloof from human affairs, leaving the world, physical as well as moral, to itself, without the least interference in its concerns.† But Revelation cannot

* De Dig. lib. iii. c. 2.

† It is singular, too, that this sect inculcated religious duties towards the gods, whom nevertheless they neither believed to be the creators nor governors of the universe. Cicero says of its founder, "De sanctitate, de pietate adversus deos libros scripsit

be true if Natural Religion is false, and cannot be demonstrated strictly by any argument, or established by any evidence, without proving or assuming the latter. A little attention to the subject will clearly prove this proposition.

Suppose it were shown by incontestable proofs that a messenger sent immediately from heaven had appeared on the earth; suppose, to make the case more strong against our argument, that this messenger arrived in our own days, nay appeared before our eyes, and showed his divine title to have his message believed by performing miracles in our presence. No one can by possibility imagine a stronger case; for it excludes all arguments upon the weight or the fallibility of testimony; it assumes all the ordinary difficulties in the way of Revelation to be got over. Now, even this strong evidence would not at all establish the truth of the doctrine promulgated by the messenger; for it would not show that the story he brought was worthy of belief in any one par-

Epicurus. At quomodo in his loquitur? ut Coruncanium, ut Scævolam, pontifices maximos, te audire dicas." "You would think," says he, "to hear him, it was our high-priests descanting upon holiness and piety."

ticular except his supernatural powers. These would be demonstrated by his working miracles. All the rest of his statement would rest on his assertion. But a being capable of working miracles might very well be capable of deceiving us. The possession of power does not of necessity exclude either fraud or malice. This messenger might come from an evil as well as from a good being; he might come from more beings than one; or he might come from one being of many existing in the universe. When Christianity was first promulgated, the miracles of Jesus were not denied by the ancients; but it was asserted that they came from evil beings, and that he was a magician. Such an explanation was consistent with the kind of belief to which the votaries of polytheism were accustomed. They were habitually credulous of miracles and of divine interpositions. But their argument was not at all unphilosophical. There is nothing whatever inconsistent in the power to work miracles being conferred upon a man or a minister by a supernatural being, who is either of limited power himself, or of great malignity, or who is one of many such beings. Yet it is certain that

no means can be devised for attesting the supernatural agency of any one, except such a power of working miracles; therefore, it is plain that no sufficient evidence can ever be given by direct Revelation alone in favour of the great truths of religion. The messenger in question might have power to work miracles without end, and yet it would remain unproved, either that God was omnipotent, and one, and benevolent, or that he destined his creatures to a future state, or that he had made them such as they are in their present state. All this might be true, indeed; but its truth would rest only on the messenger's assertion, and upon whatever internal evidence the nature of his communication afforded; and it might be false, without the least derogation to the truth of the fact that he came from a superior being, and possessed the power of suspending the laws of nature.

But the doctrines of the existence of a Deity and of his attributes, which Natural Religion teaches, preclude the possibility of such ambiguities and remove all these difficulties. We thus learn that the Creator of the world is one and the same; and we come to know his attri-

butes, not merely of power, which alone the direct communication by miracles could convey, but of wisdom and goodness. Built upon this foundation, the message of Revelation becomes at once unimpeachable and invaluable. It converts every inference of reason into certainty, and, above all, it communicates the Divine Being's intentions respecting our own lot with a degree of precision which the inferences of Natural Theology very imperfectly possess. This, in truth, is the chief superiority of Revelation, and this is the praise justly given to the Gospel in sacred writ—not that it teaches the being and attributes of God, but that it brings life and immortality to light.

It deserves, however, to be remarked, in perfect consistency with the argument which has here been maintained, that no mere revelation, no direct message, however avouched by miraculous gifts, could prove the faithfulness of the promises held out by the messenger, excepting by the slight inference which the nature of the message might afford. The portion of his credentials which consisted of his miraculous powers could not prove it. For unless we had first ascertained the unity and the benevolence of the being that

sent him, as those miracles only prove power, he might be sent to deceive us; and thus the hopes held out by him might be delusions. The doctrines of Natural Religion here come to our aid, and secure our belief to the messenger of one Being, whose goodness they have taught us to trust.

4. In other respects, the services of Natural Religion are far from inconsiderable, as subsidiary to, and co-operative with, the great help of Revelation. Thus, were our whole knowledge of the Deity drawn from Revelation, its foundation must become weaker and weaker as the distance in point of time increases from the actual interposition. Tradition, or the evidence of testimony, must of necessity be its only proof: for perpetual miracles must be wrought to give us evidence by our own senses. Now, a perpetual miracle is a contradiction in terms; for the exception to, or suspension of, the laws of nature so often repeated would destroy the laws themselves, and with the laws the force of the exception or suspension. Upon testimony, then, all Revelation must rest. Every age but the one in which the miracles were wrought, and every

country but the one that witnessed them—indeed, all the people of that country itself save those actually present—must receive the proofs which they afford of Divine interposition upon the testimony of eye-witnesses, and of those to whom eye-witnesses told it. Even if the miracles were exhibited before all the nations of one age, the next must believe upon the authority of tradition; and if we suppose the interposition to be repeated from time to time, each repetition would incalculably weaken its force, because the laws of nature, though not wholly destroyed, as they must be by a constant violation, would yet lose their prevailing force, and each exception would become a slighter proof of supernatural agency. It is far otherwise with the proofs of Natural Religion; repetition only strengthens and extends them. We are by no means affirming that Revelation would lose its sanction by lapse of time, as long as it had the perpetually new and living evidence of Natural Religion to support it. We are only showing the use of that evidence to Revelation, by examining the inevitable consequences of its entire removal, and seeing how ill supported the truths of Revelation would be,

if the prop were withdrawn which they borrow from Natural Theology; for then they would rest upon tradition alone.*

In truth, it is with Natural Religion as with many of the greatest blessings of our sublunary lot: they are so common, so habitually present to and enjoyed by us, that we become insensible of their value, and only estimate them aright when we lose them, or fancy them lost. Accustomed to handle the truths of Revelation in connexion with, and in addition to, those of Natural Theology, and never having experienced any state of mind in which we were without the latter, we forget how essential they are to the former. As we are wont to forget the existence of the air we constantly breathe until put in mind of it by some violent change threatening suffocation, so it requires a violent fit of abstraction to figure to ourselves the state of our belief in Revelation were the lights of natural religion withdrawn. The existence and attributes of a God are so familiarly proved by every thing around us, that we can hardly picture to ourselves the state of our belief in this great truth, if we only knew

* Note V.

it by the testimony borne to miracles, which, however authentic, were yet wrought in a remote age and distant region.*

5. The use of Natural Theology to the believer in Revelation is equally remarkable in keeping alive the feelings of piety and devotion. As this topic has occurred under a former head, it is only to be presented here in close connexion with Revealed Religion. It may be observed, then, that even the inspired penmen have constant recourse to the views which are derived from the contemplation of nature when they would exalt the Deity by a description of his attributes, or inculcate sentiments of devotion towards him. "How excellent," says the Psalmist, "is thy name in all the earth; thou hast set thy glory above the heavens. I will consider the heavens, even the work of thy fingers; the moon and the stars which thou hast ordained." See also that singularly beautiful poem the 139th Psalm; and the Book of Job, from the 38th to the 41st chapter.

* Mr. Locke has said, upon a similar question, "He that takes away Reason to make way for Revelation puts out the light of both; and does much about the same as if he would persuade a man to put out his eyes, the better to receive the remote light of an invisible star by a telescope."—(Human Understanding, iv. 19, 4.)

It is remarkable how little is to be found of particularity and precision in any thing that has been revealed to us respecting the nature of the Godhead. For the wisest purposes it has pleased Providence to veil in awful mystery almost all the attributes of the Ancient of Days beyond what natural reason teaches. By direct interposition, through miraculous agency, we become acquainted with his will, and are made more certain of his existence; but his peculiar attributes are nearly the same in the volume of nature and in that of his revealed word.

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NOTES.

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Note I.—Page 11.

Of the Classification of the Sciences.

I am abundantly sensible, not only, as is stated in the text, how imperfect all such classifications must be, but that grave objections may be urged against the one I have adopted, and particularly against the threefold division of *physical*, *psychological*, and *ethical* or *moral*. It may be said that one part of the moral branch of Natural Theology belongs to psychology—namely, the arguments drawn from the nature of the mind in favour of a future state; and that this part ought therefore to have been classed with the second division of the ontological branch—namely, the psychological. But it must be borne in mind that the two first divisions, comprising the ontological branch, are confined to the doctrine of existences—the investigation of the Deity's existence and attributes; while the whole of the third division, or second branch, relates to the prospects of man with respect to his soul; and consequently, although the arguments respecting these prospects are partly of a psychological nature, yet they relate to the future, and not at all to the past or present—not at all to the doctrine of existence

or attributes. This is therefore a sufficiently distinct ground for the separation. In all such classifications we should be guided by views of convenience, rather than by any desire to attain perfect symmetry; and that arrangement may be best suited to a particular purpose which plants the same things in one order, and separates them and unites them in one way, when an arrangement which should dispose those things differently might be preferable, if we had another purpose to serve. Thus the three divisions of physics, psychology, and morals may be convenient for the purposes of Natural Theology, and yet it may not so well suit the purposes of general science; although I own my opinion to be in favour of that classification for such general purposes also, keeping always in mind that whatever portion of moral science (using the term in its more ordinary sense) belongs to ontology comes within the second, and not the third, subdivision, and that the third deals with deontology alone.

The various classifications which, in ancient as well as modern times, have been made of the sciences, are well calculated to illustrate the difficulty of a perfect arrangement. The Greek philosophers distinguished them into physics, ethics, and logic. Under the first head was comprehended both the nature of mind and of the Deity; consequently, under physics were classed what we now term psychology and theology, as well as natural philosophy. Mr. Locke mainly adopted the same order when he ranged the objects of science into *physical*, *practical*, and *logical* (φυσικη, πρακτικη, ση-

μειωτικη, or λογικη); or, 1. Things in themselves knowable, whether God himself, angels, spirits, bodies; or their affections, as number, figure, &c. 2. Actions, as they depend upon us in order to happiness; and 3. The use of signs, in order to knowledge. Thus, like the Greek philosophers, he classed natural philosophy, psychology, and theology under one head; but as he only stated ethics to be "the most considerable of the second head," it may be doubtful whether or not he included under it any practical application of the natural branches of the first head. One thing, too, is quite clear in this arrangement,—that pure mathematics becomes part of the science of ontology—that is, of existences, natural and mental; and yet it bears a more close relation to the third, or logical division. It certainly appears somewhat violent to class fluxions with anatomy, metallurgy with psychology, and entomology with theology; while we make separate heads of ethics and logic. But yet more violent is M. Turgot's classification, by which he ranges, under the head of physical sciences, not only natural philosophy and metaphysics by name, but also logic and history. To thus classing history there is, indeed, a double objection. Not only is it doing unnecessary violence to common language, to make that which bears no exclusive relation to natural objects a part of physics, but to make history a science at all is perhaps yet more objectionable, unless in the sense in which inductive science is deemed historical by Lord Bacon—being considered by him as the history of facts. But this, too, is incorrect; for the history or record of facts is only the

foundation of inductive science, which consists in the comparison, or reasoning from the comparison, of these facts, and marking their differences and resemblances; whereas history is applicable to all events and all sciences, being merely the record of things that have happened, of whatever kind, and implies no reasoning or comparing at all. Why is poetry, music, painting, omitted in such an arrangement as that of Turgot? They are as much sciences as history.

Lord Bacon's own scientific classification is certainly not distinguished by peculiar felicity. He divides science into three parts, according as its object is the Deity, Man, or External Nature, naming these branches—Natural Theology, Human Philosophy, and Natural Philosophy. Hence, while intellectual and moral philosophy are separated from theology, they are both classed with anatomy and medicine; while optics and acoustics, merely from their relation to the human eye and the human ear, are ranged under the same head with ethics, and separated from natural philosophy. Hence, too, the chemical nature of the blood and bones of man is made one part of one division—Human Philosophy; while the chemical nature of the blood and bones of all other animals is ranged under another head—Natural Philosophy. As for logic and the mathematics, they are treated as a kind of appendix to physics, rather than as deserving the name of sciences.

Note II.—Page 52.

Of the Psychological Argument from Final Causes.

Dr. Clarke maintains that the evidences of design are much more to be traced in the natural than in the moral world; but he plainly means by this proposition, not so much to compare the proofs of Divine wisdom exhibited in the phenomena of the material with those exhibited in the phenomena of the intellectual world, as to show that the designs or intentions of the Deity are more easily perceived in the arrangements of the world with which we are most conversant, than his plans for our happiness, and his general intentions respecting our fate, are to be inferred from moral considerations. It is, however, to be remarked that, like all other reasoners upon Natural Theology, Dr. Clarke confines his attention entirely to physical, and never adverts to psychological, proofs.

Mr. Smith, in his *Theory of Moral Sentiments*, has interspersed with his reasonings upon the constitution of the affections and feelings, reflections upon the purposes to which they are subservient; and Mr. Stewart's writings afford frequent instances of his attention having been alive to the soundness of the same speculation. Indeed, no one who had the accurate and just views of the nature of the sentient principle, and the steady conviction of its separate and immaterial nature, which prevail through all his writings, could fail to perceive the application of the argument *à posteriori* to our

mental constitution. But these indications of this admirable writer's attention to the subject are accidental, and scattered through his works; and it is exceedingly to be regretted, nor, indeed, very easily to be explained, that he should have entirely omitted all reference to the constitution of our mental faculties in the otherwise full and able treatise upon Natural Religion which forms so large a part—above one-third—of his 'Philosophy of the Active Powers.' With the exception of a single remark (vol. ii., p. 48), and that only upon the adaptation of our faculties to our external circumstances, and a quotation from Locke, which relates more to the bodily than to the mental powers, there occurs nothing whatever upon this important part of the subject in that excellent work, where it would have been so peculiarly appropriate.

This silence of modern writers upon Natural Theology is easily accounted for by the same consideration to which Dr. Reid has referred in explaining how the modern sceptics have admitted the existence of appearances of design in the universe, and denied what he terms the major proposition—that design may be traced by its effects; while the ancient sceptics, admitting the latter proposition, denied the former. He considers this as owing to the great discoveries in physics made in modern times; and to the same cause may be ascribed the disposition of Natural Theologians to confine their attention to the evidences afforded by the material world. The ancients, on the other hand, whose progress in Natural Philosophy was extremely limited, bestow more

attention, and with considerably greater success, upon Intellectual Philosophy; and accordingly we find that they drew their arguments *à posteriori* for the existence of design in the universe as much from moral as from physical considerations.

The discussion held by Socrates with Aristodemus, as recorded by Xenophon, is well known. After enumerating the various convenient arrangements of the bodily organs, he adds—Ου τοινυν μονον ηρκεσε τῷ θεῷ του σωματος επιμεληθηναι· αλλ' (ὁπερ μεγιστον εστι) και την ψυχην κρατιστην τῷ ανθρωπῷ ενεφυσε· τινος γαρ αλλου ζωου ψυχη πρωτα μεν θεων, των τα μεγιστα και καλλιστα συνταξαντων, ησθηται ὁτι εισι; τι δε φυλον αλλο η ανθρωποι, θεους θεραπευουσι; ποια δε ψυχη της ανθρωπινης ικανωτερα προφυλλαττεσθαι, η λιμον, η διψος, η ψυχη, η θαλπη, η νοσοις επικουρησαι, η ῥωμην ασκησαι, η προς μαθησιν εκπονησαι, η ὁσα αν ακουσῃ, η ιδῃ, η μαθῃ, ικανωτερα εστι διαμεμνησθαι;—"*Nor has the Deity been satisfied with taking care of the body alone; he has implanted in man what is a far greater work to have made—a most excellent soul; for what other animal possesses a mind that can perceive the existence of the Gods by whom all these vast and fair works have been formed? What other creature than man worships those Gods? What other intelligence is superior to man's in providing against hunger, and thirst, and cold, and heat? or in curing diseases, or in exercising strength, or in cultivating learning, or in storing up the recollection of things heard, and seen, and learnt?*"*—It ma

* Xen. Memor. I. iv. 13.

be observed here, in passing, that Mr. Stewart, who refers to this passage, has adopted the paraphrastic translation by Mrs. Fielding, and it is extremely unlike the original. Mr. Stewart justly praises the "almost divine simplicity" of the whole conversation, which is a just eulogy; but the translation, although well written, little resembles the Greek in that particular. The one I have here given is at least faithful.

In like manner, the discussion with Euthydemus, after showing the goodness of the Gods in adapting all things to man's use, closes with mentioning the senses given us to enjoy those gifts of external nature, and, lastly, the use of reason. Το δε και λογισμον ήμιν εμφυσαι, &c. &c. —"*They have implanted reason in our nature, whereby we inquire touching external things; and, arguing and remembering, we learn the uses of each, and hit upon many contrivances for attaining good and avoiding evil. Have they not also given us the gift of speech, by which we can communicate mutually all we have learnt, and thus instruct each other, and make laws, and regulate civil polity?*"*

Plato pursues the same course of reasoning. We may refer particularly to the tenth and twelfth books of the treatise *De Legg.* Thus, towards the end of the latter book, he states the argument for the Deity's existence as twofold—the nature of the mind, and the order of the worldly system. The first of his reasons is drawn from considering the qualities of the mind; its greater antiquity than that of the body and its immortality;

* Xen. Memor. IV. iii. 11.

for the Platonists certainly considered immortality to be so much of the essence of mind as to deduce from thence, as the less clear proposition, the existence of a Deity.

The Stoics reasoned in like manner, with an equal regard to mental and to natural phenomena. Epictetus, after deducing the inference of design from the adaptations of sensible objects, as of the eye to light, adds, correctly and philosophically, that "the constitution of the understanding, whereby it not only receives impressions through the senses, but also deals with the ideas thus received, and combines or composes something out of them, proceeding from things that are near to things quite remote, proves the existence of an Artificer; since things carrying such marks of contrivance could not," he contends, "exist spontaneously, and without design."*

The same train of reasoning is followed by Cicero in all those parts of his writings in which he treats of the existence of a Deity. Thus the famous passage so often quoted from the treatise *De Natura Deorum*, ends with a reference to our mental constitution, although this part of it is not so frequently attended to. "An vero si domum magnam, pulchramque videris, non possis adduci ut, etiamsi dominum non videas, muribus illam et mustelis ædificatam putes; tantum vero ornatum mundi, tantam varietatem pulchritudinemque rerum cœlestium, tantam vim et magnitudinem maris atque terrarum, si eorum ac non deorum immortalium domicilium putes, nonne plane desipere videare?" Thus far as to sensible objects. But he proceeds, "Aliud a terrâ sumsimus, aliud

* Epict. Enchir. i. 6.

ab humore, aliud ab igne, aliud ab aëre eo quem spiritû ducimus: illud autem quod vincit hæc omnia, rationem dico et si placet, pluribus verbis, mentem, consilium, cogitationem, prudentiam ubi invenimus? unde sustulimus?*"

And again, in the same book, after speaking at large of the structure of the body, and the uses to which its various parts are adapted, he adds, "Jam vero animum ipsum, mentemque hominis, rationem, consilium, prudentiam, qui non divinâ curâ perfecta esse perspicit, is his ipsis rebus mihi videtur carere." He proceeds to show how great a gift reason is from its productions: "Ex quo scientia intelligitur quam vim habeat, qualis sit, quâ ne in deo quidem est res ulla præstantior;" and he closes with the well-known passage in praise of eloquence†.

In the Tusculan Questions he alludes to mind in a different manner. After going through the various provisions made for human enjoyment in the economy of nature, he adds, "Sic mentem hominis, quamvis eam non videas, ut deum non vides; tamen, ut deum agnoscis ex operibus ejus, sic ex memoriâ rerum et inventione et celeritate motus omnique pulchritudine virtutis, vim divinam mentis agnoscito‡."

The course of the argument in which he is engaged in this first part of his work, the immortality of the soul, leads him to use the phenomena of its faculties for the purpose of illustrating its separate existence; and, there-

* De Nat. Deor. ii. 6. † Ibid. ii. 59.

‡ Tusc. Qu. i. 28.

fore; he only enumerates the arrangements of the natural world as proofs of Divine agency, and gives those proofs not as the main object of the argument, but as introductory to his statement of the soul's independent nature.

In these speculations of the ancient philosophers, we cannot find any process of strict inductive reasoning; and, accordingly, the facts are not turned to the best account for the purposes of the argument. But this defect appears, at the least, as much in the physical as in the psychological portion of the reasoning. Indeed, the latter comes more near to our own philosophy; and certainly we must admit that those old writers upon Natural Theology, in the place which they assigned to intellectual phenomena, pursued a more sound and consistent method of philosophising, than the moderns have done when speculating upon the same subject.

Note III.—Page 80.

Of the Doctrine of Cause and Effect.

The argument deduced by sceptical writers from Mr. Hume's doctrine respecting causation has tended to bring some discredit upon the doctrine itself, by raising a prejudice against it. The bad use, however, which is made of a sound principle is not fairly a matter of charge against that principle. The only question is whether or not the principle be just in itself; and it cannot be just if legitimate reasoning can deduce from it an absurd con-

sequence. A dangerous consequence, how rigorously soever following from it, would of course form no reason against its reception, though it might justly be made the ground of examining very narrowly the foundations upon which the doctrine itself rested.

Mr. Stewart, in a valuable and learned note to the 'Philosophy of the Human Mind,' (vol. i., note D,) has brought together the authorities, which have all more or less not only countenanced, but even forestalled Mr. Hume in his position—that we know nothing of causation except by observing a constant junction between two events or two facts. This is unquestionably true. We expect that heat being applied to combustible bodies, they will take fire; and that air being excluded they will cease to burn. We expect this, because between the application of heat and the ignition of the heated body, between the exclusion of air and the extinction of the fire, we have constantly observed the relation of sequence—the one event being always followed closely by the other. The inference which forms the ground of this expectation, forms the ground of our belief that the one event occasions the other—that there is between the two a connexion beyond the mere relation of junction and sequence—and that the one, the preceding event, exerts an influence, a force, a power, over the other, and produces the other.

This constant conjunction, therefore, in point of fact, is the ground of our belief, and is the origin of our ideas of causality or causation. So far we must admit the doctrine in question. That it is the only ground of the

belief, and the only origin of the idea, may admit of some doubt. This is the point on which turns the connexion between the science of Natural Theology and the controversy we are now referring to; and therefore it deserves some consideration in the present note.

1. The mere constant and unvarying succession of two events would not of itself be sufficient to make us, even in popular language, denominate the one a cause of the other. Light uniformly succeeds dark—one o'clock always follows twelve; but no man ever thought of calling or of deeming night to be the cause of day, or noon of afternoon*. Another and a very important experiment or observation is required before we pronounce the successive or conjoined events to be related one to the other as cause and effect. Not only must the second event always have been found to follow the first, but the second must never have been observed without the first preceding it, or at least without some other event preceding it—in which case the causation is predicated alike of both those preceding events. Thus, the clock pointing to one is not reckoned the effect of its having previously pointed to twelve; but it is reckoned the effect of a certain mechanism, namely, a spring unfolding itself, because if the spring is prevented from relaxing, the hand no longer points; and so it is also

* Mr. Stewart's observation, that day follows night as much as night follows day, makes no difference in this illustration: for we may suppose the case of a person seeing day for the first time, or twelve o'clock for the first time, and the conclusion in the text would still hold good.

reckoned the effect of a weight pulling a cord, because, when that weight is stopped in its descent, the whole machinery stops.

2. But we derive not our notion of causality from even this double proof—the positive and negative combined—the two observations that one event always follows the other, and that it ceases when the other ceases. This of itself would only tell us the fact, that when one event exists the other exists immediately afterwards and not otherwise. Our minds form, whether we will or no, another idea—not merely that of constant connexion or succession, but of the one exerting a power over the other by an inherent force; and this is the idea of causation. Whence do we derive it? I apprehend only from our consciousness. We feel that we have a will and a power—that we can move a limb, and effect by our own powers, excited after our own volition, a change upon external objects. Now from this consciousness we derive the idea of power, and we transfer this idea and the relation on which it is founded between our own will and the change produced, to the relations between events wholly external to ourselves—assuming them to be connected, as we feel our volition and our movements are mutually connected.

If it be said that this idea by no means involves that of necessary connexion, nothing can be more certain. The whole is a question of fact—of contingent truth. Just as the world might be so constituted that heat applied should not ignite, nor air excluded extinguish—so might our volition cease to make our limbs move, as it

does cease in paralysis. As it is, and because our will has hitherto had the power to move our limbs, we have acquired the idea of power and of causation. But if it had always been otherwise, and that no connexion of succession had ever existed between our volition and our movements, I do not see how the idea of power or causality could ever have been obtained by us from any observation of the sequence of events. The idea of design or contrivance, in like manner, must have been wanting to us; and hence, I cannot understand how, but for the consciousness of power, we could ever have been led to the belief in the existence of a First Cause. This is another, and, to my mind, a very strong, additional reason for resting the evidences of Natural Theology upon the argument *à posteriori* alone.

That they are greatly in error who confound, as has been too common, causation with necessary connexion, and who deny the existence of the relation of causality merely because the relation is contingent and not necessary, is sufficiently manifest. Our ideas of power and of causation are solid and well founded, although they only refer to a power or a causation which may or may not exist. That one event causes another may be a proposition quite true, to which we affix a precise and definite meaning, and which we have learnt from observation and from consciousness, although the order of nature might easily have been so constituted as that the two events should never have been found in sequence. At present the order of nature connects them, and we affirm that there exists the relation of cause and effect—a rela-

tion contingent, however, and not necessary. Of necessary causation we can by no possibility know any thing; but causation may be real enough though contingent.

Note IV.—Page 57, 107.

Of the "Système de la Nature," and the Hypothesis of Materialism.

There is no book of an atheistical description which has ever made a greater impression than the famous *Système de la Nature*. It bears the impression of London, 1780, but was manifestly printed in France; also, it purports to be written by Mirabaud, secretary of the Académie Française; and in a prefatory advertisement by the supposed editor, who pronounces a great panegyric upon the work, enough appears to engender doubts of Mirabaud having been its author. He died in 1760; and it was twenty years before the work appeared—found, says the writer, among a collection of manuscripts made by a "savant curieux de rassembler des productions de ce genre." Robinet, the author of another work of similar tendency, called *De la Nature*, has been at different times said to be its author, without any proof, or indeed probability; but the general opinion now ascribes it to the Baron d'Holbach, aided, in all probability, by Diderot, Helvetius, and other members of the freethinking society, who frequented the Baron's

house, and who used to complain of Voltaire's excess of religious principle, not unfrequently ridiculing him for his fanaticism. Mirabaud, upon whom this publication most unjustifiably charges the book, by placing his name in the title-page without any doubt expressed, and reserving the doubts for the preface, was a man of unimpeachable integrity and amiable disposition. He had been educated in the College of the Jesuits, and afterwards was preceptor to some branches of the royal family; he died at the age of eighty-five, universally esteemed for his unblemished character, his strict probity, and his attractive manners. The Diderots and Grimms, though not perhaps persons of abandoned life, were very far from attaining such praise: indeed, the licentious works that proceeded from Diderot's pen attest his deficiency, at least in one branch of morals.

It is impossible to deny the merits of the *Système de la Nature*. The work of a great writer it unquestionably is; but its merit lies in the extraordinary eloquence of the composition, and the skill with which words substituted for ideas, and assumptions for proofs, are made to pass current, not only for arguments against existing beliefs, but for a new system planted in their stead. As a piece of reasoning, it never rises above a set of plausible sophisms—plausible only as long as the ear of the reader being filled with sounds, his attention is directed away from the sense. The chief resource of the writer is to take for granted the thing to be proved, and then to refer back to his assumption as a step in the demonstration, while he builds various conclusions upon

it, as if it were complete. Then he declaims against a doctrine seen from one point of view only, and erects another for our assent, which, besides being liable to the very same objections, has also no foundation whatever to rest upon. The grand secret, indeed, of the author goes even further *in petitione principii* than this; for we oftentimes find, that in the very substitute which he has provided for the notions of belief he would destroy, there lurks the very idea which he is combating, and that his idol is our own faith in a new form, but masked under different words and phrases.

The truth of these statements we are now to examine; but first it may be fitting to state why so much attention is bestowed upon this work. The reason is, that its bold character has imposed on multitudes of readers, seducing some by its tone of confidence, but intimidating others by its extreme audacity. It is the only* work of any consideration wherein atheism is openly avowed and preached — avowed, indeed, and preached in terms. (See, particularly, part ii., chap. ii.) This effect of its hardihood was certainly anticipated by its author; for the supposed editor, in his advertisement, describes it, somewhat complacently, if not boastingly, as "l'ouvrage le plus hardi et le plus extraordinaire que l'esprit humain ait osé produire jusqu'à présent."

The grand object of the book being to show that there is no God, the author begins by endeavouring to esta-

* The treatise of Robinet, *De la Nature*, which, though far less eloquent and dexterous, is superior in real merit, has never attracted anything like the same notice.

blish the most rigorous materialism, by trying to show that there is no such thing as mind—nothing beyond or different from the material world. His whole fabric is built on this foundation; and it would be difficult to find in the history of metaphysical controversies such inconclusive reasoning, and such undisguised assumptions of the matter in dispute as this fundamental part of his system is composed of. He begins with asserting that man has no means of carrying his mind beyond the visible world; that he is necessarily confined within its limits; and that there exists nothing, and there can exist nothing, beyond the boundary which incloses all beings—that is, the material world. Nature, we are told, acts according to laws, simple, uniform, invariable, which we discover by experience. We are related to Universal Nature by our senses, which alone enable us to discover her secrets; and the instant we abandon the lessons which those senses teach us, we plunge into an abyss where we become the prey of imagination.

Thus the very first chapter—the opening of the work—has already made the gratuitous assumption of a being whom the author calls Nature, without either defining what that is, or how we arrive at a knowledge of its existence. He has also assumed another existence, that of matter, or the material world; and then he asserts—what is absolutely contrary to every day's experience, and to the first rudiments of science—that we know, and can know, nothing but what our senses tell us. It is a sufficient answer to ask, how we know anything of mathematical truth? And in case a cavil should arise upon

geometrical science (though it would be but a cavil) we shall speak only of analytical; and then it is certain that the whole science of numbers, from the rules of elementary arithmetic up to the highest branches of the modern calculus, could by possibility have been discovered by a person who had never in his life been out of a dark room—who had never touched any body but his own—nay, whose limbs had all his life been so fixed, that he had never exercised even upon his own body the sense of touch: indeed we might even go so far as to say, who had never heard a sound uttered; for the primitive ideas of number might by possibility have suggested themselves to his mind, and been made the grounds of all further calculations. What becomes now of all our knowledge depending on the senses? But we need not go to so extreme a case as the one just put: there would be an end of the position we are dealing with, if a person so circumstanced could have discovered any one analytical or common arithmetical truth. Enough, indeed, is known to every one, how moderately soever imbued with mathematical learning, to satisfy him how little the intimations received from the senses have, or can have, to do with the whole science of number and quantity. That those intimations of the senses are themselves not at all of a material nature, we shall presently see.

After many discussions and much eloquence, in the course of which various agents are introduced besides Nature, as Necessity, Relation, and so forth, without definition of their qualities or proof of their existence,

—we come to the great demonstration, that no soul, no mind, nothing separate from the body and from matter, exists, or indeed can exist: for this book is not content with scepticism; it rests not even satisfied with disproof: it affects to show the impossibility of the doctrines which it combats; and while perpetually complaining of dogmas, it is perhaps the most dogmatical work that was ever written. The sixth and seventh chapters, but the seventh especially, treat of this fundamental doctrine—the corner-stone of the whole building. The argument is, in fact, a mere vague and unintelligible combination of words, as when the author concludes by saying,—The result of the whole is, that "the soul, far from being anything distinguishable from the body, is only the body itself regarded relatively to some of its functions, or to some of the manners of acting or of being, whereof it is capable as long as it enjoys life"—(n'est que ce corps lui même envisagé relativement à quelqu'unes de ses fonctions ou à quelques façons d'être et d'agir dont il est susceptible tant qu'il jouit de la vie.) Or when he describes those faculties which are vulgarly called intellectual, as modes or manners of being and of acting, which result from the organization of the body—(les facultés que l'on nomme intellectuelles ne sont que des modes ou des façons d'être et d'agir résultant de l'organisation de notre corps.)—Part i. chap. viii.

But there is still more to be remarked throughout the Treatise, an inconceivable forgetfulness of the evidence on which each party in the controversy most relies, a constant assumption of the thing in question, and even an

involuntary assumption of that very separate and spiritual existence which it is the author's object to disprove.

Like all materialists, but far more grossly and dogmatically than almost any other, the author begins by assuming that Matter exists, that we can have no doubt whatever of this, and that any other existence is a thing to be proved. Now, what is this Matter? Whence do we derive any knowledge of it? How do we assure ourselves of its existence? What evidence at all have we respecting either its being or its qualities? We feel, or taste, or smell something—that is, we have certain sensations which make us conclude that something exists beyond ourselves. It will not do to say beyond our bodies; for our bodies themselves give us the same sensations. What we feel is something beyond, or out of, or external to, or other than and apart from *ourselves*—that is, from our minds. Our sensations give us the intimation of such existences. But what are our sensations? The feelings or thoughts of our minds. Then what we do is this: From certain ideas in our minds, produced no doubt by, and connected with our bodily senses, but independent of, and separate from them, we draw certain conclusions by reasoning, and those conclusions are in favour of the existence of something other than our sensations and our reasonings, and other than that which experiences the sensations and makes the reasonings—passive in the one case—active in the other. That something is what we call Mind. But plainly, whatever it is, we

owe to it the knowledge that Matter exists: for that knowledge is gained by means of a sensation or feeling, followed by a process of reasoning; it is gained by the mind having first suffered something, and then done something, and, therefore, to say there is no such thing as Matter would be a much less absurd inference than to say there is no such thing as Mind. The very act of inferring, as we do by reasoning, that the object which affects our senses exists apart from ourselves, is wholly incapable of giving us any knowledge of the object's existence without, at the same time, giving us a knowledge of our own—that is, of the Mind's existence. An external implies necessarily an internal; that there may be anything beyond or without, there must needs be some other thing beyond or without which it is said to exist; that there may be a body which we feel abiding separate from us, namely, our own body, one part of which gives us sensations through another part—there must be a *we*, an *us*—that is, a *mind*. If, as the *Système de la Nature* often contends, we have a right to call spirit, or soul, or Mind, a mere negation of the qualities of Matter, surely this might just as well be retorted by saying, that Matter is only a negation of the qualities of Mind. But, in truth, the materialists cannot stir one step without the aid of that Mind whose existence they deny.

Then what are these *qualities* of Matter they are always speaking about? What but the effects, or the power of causing those effects produced by Matter upon the Mind through the senses? A remarkable instance,

and a very instructive one, of the impossibility of a materialist arguing legitimately, strictly, or consistently, is to be found in the passage of this book, where the argument is as it were summed up against the existence of mind: "La matière seule peut agir sur *nos sens* sans *lesquels* il *nous* est impossible que rien se fasse *connoître de nous*." Here the author, in order to deny the possibility of Mind, or any thing else than Matter having an existence, uses, in two lines, expressions, six times over, all drawn from the assumption of a something existing separate from and independent of Matter. *Our — senses — which — us — known — by us*—all these are words absolutely without meaning if there is nothing but matter in existence; and these are expressions conveying the ideas of which this fundamental proposition wholly consists. But that the author refers to Bishop Berkeley, as well as Mr. Locke, it might have been supposed that he had never been made aware of the controversy upon the existence of matter. Indeed the manner in which he mentions the speculations of Berkeley is quite sufficient to show his ignorance of the nature of the question, and reminds us forcibly of the remark made by D'Alembert, that whoever had not at times doubted the existence of matter, might be assured he had not any genius for metaphysical inquiries. Would any one believe it possible, that an author who could dogmatically deny the possibility of Mind existing in any form apart from Matter, should be so little competent to discuss questions like this, as to speak in these terms of Berkeley?

" Que disons nous d'un Berkeley qui s'efforce de nous prouver que tout dans ce monde n'est qu'une illusion chimérique; que l'univers entier n'existe que dans nous-mêmes, et dans notre imagination," &c. " Pour justifier des opinions si monstrueuses," &c.

The truth is, that we believe in the existence of Matter, because we cannot help it. The inferences of our reason from our sensations impel us to this conclusion, and the steps are few and short by which we reach it. But the steps are fewer and shorter, and of the self-same nature, which lead us to believe in the existence of Mind; for of that we have the evidence within ourselves, and wholly independent of our senses. Nor can we ever draw the inference in any one instance of the existence of matter without at the same time exhibiting a proof of the existence of mind; for we are, by the supposition, reasoning, inferring, drawing a conclusion, forming a belief; therefore there exists somebody, or something, to reason, to infer, to conclude, to believe; that is, *we*—not any fraction of matter, but a reasoning, inferring, believing being—in other words, a Mind. In this sense the celebrated argument of Descartes—*cogito, ergo sum*—had a correct and a profound meaning. If, then, scepticism can have any place in our system, assuredly it relates to the existence of Matter far more than of Mind; yet the *Système de la Nature* is entirely founded upon the existence of Matter being a self-evident truth, admitting of no proof, and standing in need of none.

We have combated the main body of the argument

which runs through the whole book, and passed over some of the gross errors, apparently proceeding from ignorance of physical science, in which it abounds. Of these the most notable, no doubt, is that which Voltaire, in his *Essai sur le Systême de la Nature*, considers (chap. i.) as the foundation of the whole theory—the absurd passage respecting the formation of eels. Certain it is, that in the Second chapter of Part I., the experiment of moistening flour, and thereby producing live microscopic insects, is referred to as a proof that "inanimate matter can pass into life," "which," adds the book, "is itself but the union of notions." No one indeed can accuse Voltaire of taking an unfair advantage when he relies on this piece of extraordinary ignorance; but it is not altogether just to represent the whole book as resting on this blunder.

As for the kind of comparisons or analogies by which, like all materialists, this writer tries to illustrate his hypothesis, and by which many materialists really are deceived—the mechanism of a watch, for example, consisting of parts each separately incapable of producing any result, but altogether forming a moving instrument that measures the efflux of time—nothing, surely, can be more puerile than the attempt to draw from thence an argument in favour of the confused, and, when examined closely, unintelligible position that Mind is a modification of Matter, or the result of a collocation of material particles. For the watch is material, doubtless, both in its whole and in each part separately; the combination never produces any effect

that is not strictly of a material kind; the motions and the registration of time resulting from them are all as purely mechanical as the form of each part, and each part has in it every quality and incident in kind which the whole possesses. The difference in the case of Mind is, that we have something wholly of a new and peculiar kind, and in no respect resembling or belonging to the same class with any of the exertions or operations of the material parts, the combination of which is alleged by the materialist to have given it birth.

The first part having laid the foundation by disproving the existence of Mind, the second part of the "*Système*" proceeds to raise upon it the conclusion that the Deity's existence is impossible. This part is much more declamatory than the former, though often displaying great powers of eloquence, and reminding us of the more striking parts of Rousseau's early writings, especially his paradoxes against knowledge, perhaps in a more choice style, and with colouring more subdued. But reasoning it contains absolutely none, with the exception of the Fourth chapter, where Dr. S. Clarke's argument *à priori* is dissected and refuted—a task, unfortunately, not very difficult to accomplish, though it is here done in an illegitimate manner. We cannot, however, fail to observe, that while the author proposes to go through the arguments of the various philosophers who have maintained the existence of a Deity; and while he does remark on Descartes, Malebranche, Newton, and Clarke, (in a chapter which forms by far the most argumentative part of his book,) he

never approaches those who have treated the question by the argument *à posteriori*. In one place (chap. vii.) he refers to Final Causes, but this passage only relates to the subject of man's superiority and the arguments of the optimists, and does not at all touch upon the evidences of design derived from the structure of the universe—the great foundation of Natural Theology. It is impossible to suppose the author ignorant of the argument *à posteriori*, for he in one place refers to Derham by name. The omission of all reference to the most important branch of the subject is one of the things that most bring the good faith of this writer into question.

The purpose of this note having been to show how the atheistical argument grounded on materialism fails when examined in its connexion with the evidences of the Mind's independent existence, to pursue further the Second Part of the work is unnecessary. But a few remarks are added to show how exactly the same assumption of the things to be proved prevails here which we observed in the First Part.

The first proposition, and supported at great length, is that all the ideas which man has formed of a First Cause have resulted from the evils of his lot, and that but for human suffering a Deity would never have been thought of. "Inquiry and speculation," says the author, "is itself an evil; and no creature living easy and happy, without pain and without wants, would ever give himself the trouble and annoyance of arguing on a First Cause. But fear and evil, especially pain and death—the terrors of earthquake, eclipse, tempest—the horrors of death—

drove the mind to seek out the source of all these dangers, and to appease or disarm its supposed wrath; and thus the sky was peopled with gods and spirits."

Now, that the fears and the ignorance of men have been the fruitful source of polytheism, no one doubts; but it is wholly false to assert that genuine and philosophical religion could have had no other origin. To affirm that, but for their sufferings and fears, men never would have encountered the pain or the trouble of speculating on a First Cause, is quite contrary to the most obvious facts. Those speculations, far from being painful or troublesome, are gratifying in the highest degree. As well might it be said that all the pleasures of scientific discovery and study would have been foregone by all men, but for some physical inconvenience that drove them into those paths of investigation. Of all writers, the authors of the great improvements in physical science are they who have been the least under the pressure of want, and have gained the least by their labours. But such speculations are productive of the greatest gratification, both to the guide who originally points out the way, and to those who more humbly follow in his footsteps. So the sublime contemplations of Natural Theology have engaged men's attention and exercised their faculties, wholly independent of any sufferings they were exposed to, or any fears they entertained; and far from being a source of pain, this study has ever been found to reward its votaries with the purest enjoyment.

That the study and the knowledge of a Deity would

have existed without any relation to evil is therefore clear. Man's curiosity—his natural desire of tracing the origin of what he saw around him—his anxiety to know whence he came, and whither he was going, and how the frame of the universe was contrived and sustained—would have led to the study and knowledge of a Creator without any such motives as this book supposes.

It is remarkable, that in the latter, as in the former portion of the work, blind assumptions are not only always made, but an entire disregard is shown to the evidence which often arises out of those very assumptions, and proves the truths its author is endeavouring to subvert. Thus, in the Second chapter, he says: "Whether the human race has always existed on this earth, or that it is a recent and transitory production of nature...." Now, if it be a recent production of nature, surely this admits the creative power—the very divinity the book is contending against; for what can be the meaning of a state of things, in which, up to a certain time—*i.e.* six or seven thousand years ago—the human species had no existence, and then this species coming into existence, or, as the book says, being produced by nature? What but that a superintending power, which had not before acted in this way, now for the first time began thus to act? To call this Nature is only changing the name—a Deity is the plain and the true meaning, and the only thing which can be meant.

Indeed, nothing can be more absurd and unreflecting than the play made throughout the book with mere words. Thus, in the same chapter, it is asked—whether

a Theologian "can really be sincere in believing himself to have made a step by substituting the vague words spirit, incorporeal substance, divinity, &c., for those intelligible words"—what? what words so much less vague and more intelligible* than spirit?—"those intelligible words, matter, nature, mobility, necessity!" Now, we may safely ask, if all language furnishes two words more vague and less intelligible than two out of these four—viz., nature and necessity? But we have, in truth, already shown that Matter, as far as the present controversy is concerned, offers no more precise idea to our contemplation than Mind or spirit, and that its existence and qualities rest on less conclusive evidence than do those of Mind. Possibly the reader of this passage, and especially if he casts his eye back upon the former parts of the argument, may be inclined to adopt the writer's description of Theology, and apply it to the dogmatical Atheism of the *Système de la Nature*.

* There occurs every where in this book a vague and mysterious idea of a force or living power belonging to Matter, and almost a *deification* of this power, utterly unintelligible; but in a hater of Deity—a derider of all gods—quite marvellous. The passage in which this idea is most strikingly announced is the 11th chapter of part ii., where he is answering the position that there is no such thing as an Atheist in the world—"Si par *Athée* l'on désigne un homme qui nieroit l'existence d'une *force inhérente à la nature* et sans laquelle l'on ne peut concevoir *la Nature*, et si c'est à cette force motive qu'on donne le nom de *Dieu*, il n'existe point d'Athées et le mot sous lequel on les désigne, n'annonceroit que des fous." —Can any one doubt that, after rejecting all reasonable and consistent notions of a Deity, this writer had really made unto himself other gods, and bowed down before them, and worshipped them? For what is "the force inherent in matter?" and what is "nature," and the essence of nature, or that thing "without which nature cannot be conceived?"

Note V.—Page 211.

Of Mr. Hume's Sceptical Writings, and the Argument respecting Providence.

The two most celebrated and most dangerous treatises of this great author, upon religious subjects, are those in which he has attacked the foundations of Natural and of Revealed Religion—the *Essay on Providence and a Future State*, and the *Essay on Miracles*. Others of his writings have a similar tendency, and more covertly though as surely sap the principles of religion. But the two essays to which we have referred are the most important writings of this eminent philosopher, because they bring his sceptical opinions more directly to bear upon the systems of actual belief.

I. The argument of Tillotson against the doctrine of the Real Presence is stated to have suggested that against the truth or rather the possibility of Miracles; but there is this most material difference between the two questions—that they who assert the Real Presence drive us to admit a proposition contrary to the evidence of our senses, upon a subject respecting which the senses alone can decide, and to admit it by the force of reasonings ultimately drawn from the senses—reasonings far more likely to deceive than they, because applicable to a matter not so well fitted for argument as for perception, but reasonings at any rate incapable of exceeding the evidence the senses give. Nothing, therefore, can be more conclusive than Tillotson's argument—that against the

Real Presence we have of necessity every argument, and of the selfsame kind with those which it purports to rest upon, and a good deal more besides; for if we must not believe our senses when they tell us that a piece of bread is merely bread, what right have we to believe those same senses, when they convey to us the words in which the arguments of the Fathers are couched, or the quotations from Scripture itself, to make us suppose the bread is not bread, but flesh? And as ultimately even the testimony of a witness who should tell us that he had heard an apostle or the Deity himself affirm the Real Presence, must resolve itself into the evidence of that witness's senses, what possible ground can we have for believing that he heard the divine affirmation, stronger than the evidence which our own senses plainly give us to the contrary?

This is very far from being the case with the argument on Miracles. There, the evidence for and the evidence against do not coincide in kind, but take opposite directions. There, we have not to disbelieve indications of the same nature with those upon which our belief is challenged. The testimony of witnesses is adduced to prove a Miracle, or deviation from the ordinary laws of nature; but, says Mr. Hume, it is more likely that the witnesses should be deceived or should deceive, than that the laws of nature should be broken; and at all events we believe testimony only because it is a law of nature that men should tell the truth. This may very possibly be true; doubtless it is, generally speaking, so likely to be true, that the belief of a miracle is, and ought to be, most

difficult to bring about; but at least, it is not like the belief in the Real Presence: it does not at one and the same time assume the accuracy of the indications given by our senses, and set that accuracy at nought;—it does not at once desire us implicitly to trust and entirely to disregard the evidence of testimony, as the doctrine of Transubstantiation calls upon us at once to trust and disregard the evidence of our senses.

There are two answers, however, to which the doctrine proposed by Mr. Hume is exposed, and either appears sufficient to shake it.

First—Our belief in the uniformity of the laws of nature rests not altogether upon our own experience. We believe no man ever was raised from the dead—not merely because we ourselves never saw it, for indeed that would be a very limited ground of deduction; and our belief was fixed on the subject long before we had any considerable experience—fixed chiefly by authority—that is, by deference to other men's experience. We found our confident belief in this negative position partly, perhaps chiefly, upon the testimony of others; and at all events, our belief that in times before our own the same position held good, must of necessity be drawn from our trusting the relations of other men—that is, it depends upon the evidence of testimony. If, then, the existence of the law of nature is proved, in great part at least, by such evidence, can we wholly reject the like evidence when it comes to prove an exception to the rule—a deviation from the law? The more numerous are the cases of the law being kept—the more rare those of its

being broken—the more scrupulous certainly ought we to be in admitting the proofs of the breach. But that testimony is capable of making good the proof there seems no doubt. In truth, the degree of excellence and of strength to which testimony may rise seems almost indefinite. There is hardly any cogency which it is not capable by possible supposition of attaining. The endless multiplication of witnesses—the unbounded variety of their habits of thinking, their prejudices, their interests—afford the means of conceiving the force of their testimony augmented *ad infinitum*, because these circumstances afford the means of diminishing indefinitely the chances of their being all mistaken, all misled, or all combining to deceive us. Let any man try to calculate the chances of a thousand persons who come from different quarters, and never saw each other before, and who all vary in their habits, stations, opinions, interests—being mistaken or combining to deceive us, when they give the same account of an event as having happened before their eyes—these chances are many hundreds of thousands to one. And yet we can conceive them multiplied indefinitely; for one hundred thousand such witnesses may all in like manner bear the same testimony; and they may all tell us their story within twenty-four hours after the transaction, and in the next parish. And yet, according to Mr. Hume's argument, we are bound to disbelieve them all, because they speak to a thing contrary to our own experience, and to the accounts which other witnesses had formerly given us of the laws of nature, and which our forefathers had handed down to

us as derived from witnesses who lived in the old time before them. It is unnecessary to add that no testimony of the witnesses whom we are supposing to concur in their relation contradicts any testimony of our own senses. If it did, the argument would resemble Archbishop Tillotson's upon the real presence, and our disbelief would be at once warranted.*

Secondly—This leads us to the next objection to which Mr. Hume's argument is liable, and which we have in part anticipated while illustrating the first. He requires us to withhold our belief in circumstances which would force every man of common understanding to lend his assent, and to act upon the supposition of the story told being true. For suppose either such numbers of various witnesses as we have spoken of; or, what is perhaps stronger, suppose a miracle reported to us, first by a

* Prophecy is classed by Mr. Hume under the same head with Miracle—every prophecy being, he says, a miracle. This is not, however, quite correct. A prophecy—that is, the happening of an event which was foretold—may be proved even by the evidence of [illegible] of the whole world. Suppose it had one thousand years [illegible] this day this year, one person of [illegible] with a particular distemper [illegible] that the [illegible] foretold. To future generations the [illegible] would no doubt come within the description of a miracle in all respects. The truth is, that the event happening which was foretold may be compared to the miracle; and Mr. Hume's argument will then be, not that there is any thing miraculous in the event itself, but only in its happening after it had been foretold. Bishop Sherlock wrote discourses on this subject, which Dr. Middleton answered: the former denying that prophecy was more exempt from the scope of the sceptical argument than miracles. On the whole, however, it does seem more exempt.

number of relators, and then by three or four of the very soundest judges and most incorruptibly honest men we know—men noted for their difficult belief of wonders, and, above all, steady unbelievers in Miracles, without any bias in favour of religion, but rather accustomed to doubt, if not disbelieve—most people would lend an easy belief to any Miracle thus vouched. But let us add this circumstance, that a friend on his death-bed had been attended by us, and that we had told him a fact known only to ourselves—something that we had secretly done the very moment before we told it to the dying man, and which to no other being we had ever revealed—and that the credible witnesses we are supposing inform us that the deceased appeared to them, conversed with them, remained with them a day or two, accompanying them, and to avouch the fact of his reappearance on this earth, communicated to them the secret of which we had made him the sole depository the moment before his death;—according to Mr. Hume, we are bound rather to believe, not only that those credible witnesses deceive us, or that those sound and unprejudiced men were themselves deceived, and fancied things without real existence, but further, that they all hit by chance upon the discovery of a real secret, known only to ourselves and the dead man. Mr. Hume's argument requires us to believe this as the lesser improbability of the two—as less unlikely than the rising of one from the dead; and yet every one must feel convinced, that were he placed in the situation we have been figuring, he would not only lend his belief to the relation, but, if

the relators accompanied it with a special warning from the deceased person to avoid a certain contemplated act, he would, acting upon the belief of their story, take the warning, and avoid doing the forbidden deed. Mr. Hume's argument makes no exception. This is its scope; and whether he chooses to push it thus far or no, all Miracles are of necessity denied by it, without the least regard to the kind or the quantity of the proof on which they are rested; and the testimony which we have supposed, accompanied by the test or check we have supposed, would fall within the grasp of the argument just as much and as clearly as any other Miracle avouched by more ordinary combinations of evidence.

The use of Mr. Hume's argument is this, and it is an important and a valuable one. It teaches us to sift closely and rigorously the evidence for miraculous events. It bids us remember that the probabilities are always, and must always be, incomparably greater against than for the truth of these relations, because it is always far more likely that the testimony should be mistaken or false, than that the general laws of nature should be suspended. Further than this the doctrine cannot in soundness of reason be carried. It does not go the length of proving that those general laws cannot, by the force of human testimony, be shown to have been, in a particular instance, and with a particular purpose, suspended.

It is unnecessary to add, that the argument here has only been conducted to one point, and upon one ground

—namely, to refute the doctrine that a Miracle cannot be proved by any evidence of testimony. It is for those who maintain the truth of any revelation to show in what manner the evidence suffices to prove the Miracles on which that revelation rests. This treatise is not directed to that object; but in commenting upon Mr. Hume's celebrated argument, we have dealt with a fundamental objection to all Revelation, and one which, until removed, precludes the possibility of any such system being established.

II. The Essay on Miracles being supposed by its author sufficient to dispose of Revelation, the Essay on Providence and a Future State appears to have been aimed as a blow equally fatal to Natural Religion. Its merits are, however, of a very superior order. There is nothing of the sarcasm so unbecoming on subjects of this most serious kind, which disfigures the concluding portion of the former treatise. The tone is more philosophic, and the sceptical character is better sustained. There cannot, indeed, be said to prevail through it anything of a dogmatical spirit, and certainly we here meet with none of that propensity to assume the thing in question, to insist upon propositions as proved which have only been enunciated, to supply by sounds the place of ideas, which we remark in the "*Système de la Nature.*" On the contrary, the argument, whether sound or not, is of a substantial nature; it is rested on very plausible grounds; and we may the rather conclude that it is not very easily answered, because, in fact, it has rarely, if ever, been encountered by writers

on theological subjects. Nevertheless, it strikes at the root of all Natural Religion, and requires a careful consideration.

Mr. Hume does not deny that the reasoning from the appearances and operations of nature to the existence of an intelligent cause is logical and sound; at least he admits this for argument's sake. But he takes this nice and subtle distinction. We are here, he observes, dealing with an agent, an intelligence, a being, wholly unlike all we elsewhere see or hitherto have known: our inferences, therefore, must be confined strictly to the facts from whence they are drawn. When we see a foot-mark imprinted on the sand, we conclude that a man has walked there, and that his other foot had likewise left its print, which the waves have effaced. But this inference is not drawn from the inspection of the foot alone; it comes from a previous knowledge of the human body, of which the foot makes a part. Had we never seen that body, or any other that walked on feet, the observation of the mark in the sand could have led to no other conclusion than that some body or thing had been there with a form like the mark. So, when we are to reason from the works of nature to their cause, we are entitled to conclude that a being exists whose power and skill created them such as we behold them, and consequently that this being is possessed of skill and power sufficient to contrive and to execute those works—that is, those precise works, and no more. We have no right to infer that this being has the skill or the power to contrive and create one single blade of grass or grain of sand be-

yond what we see. It follows, then, that the argument *à posteriori* only leads to the conclusion that a finite and not an infinitely or an indefinitely wise and powerful Being exists; and it further follows that we are left without any evidence of his power (much less of his intention) to perpetuate our existence after death, as well as without any proof of the capacity of the soul to receive such a continuation of being after its separation from the body. This is the sum of the very ingenious, subtle, and original argument of Mr. Hume, affording a mighty contrast to the flimsy sophisms, the declamatory assertions, of the French writers, and giving the Natural Theologian, it must be allowed, a good deal to answer. We have stated it as strongly as we could, in order to meet it fully; and it appears capable of a satisfactory answer.

The whole argument *à posteriori* rests upon the assumption, that if we perceive arrangements made, by means of which certain effects are produced, and if seeing such arrangements among the works of men, we should at once conclude that they were designed to produce those effects, we are entitled to say that the arrangements which we see and which we know not to be the work of man, are the work of an intelligent cause, contriving them for the purpose of producing the effects observed. In truth, such must needs be the assumption on which the argument rests, because we have no other knowledge of what design and contrivance are. They necessarily bear reference to our own nature and the knowledge we have of our own minds, derived from our

own consciousness and experience; and of this we have treated in the text, Sect. III. and IV. of Part I.

If we found anywhere a mechanism of any kind, a watch for instance, as Paley puts the case, we should at once conclude that some skilful and intelligent being had been there, and had left his works on the spot. We should conclude (indeed this is involved in the former inference) that he was capable of doing what we saw he had done, and that he had intended to produce a particular effect by the exercise of his skill; but we should also conclude that he who could do this could repeat the operation if he chose, and the probability would be that his skill had not been confined to the single exertion of it which we had observed. There is nothing peculiar in the nature of human workmanship or of the human character to make us draw this conclusion. We arrive at it just as we arrive at the inference of design and contrivance; we believe in them because we are wholly unable to conceive such an adaptation without such an intention; and we are equally unable to conceive that any being, or any intelligence, or any power, which had sufficed to perform the operation we see, should be confined to that single exertion. We can conceive no reason whatever why the same power should not be capable of repeating the operation. There is nothing peculiar—no limit—no sufficient reason, of an exclusive nature, why the same power should not be again exercised and with the same result. All induction proceeds upon similar grounds. It is the generalization of particulars; it is the con-

cluding from a certain limited number of instances to an indefinite number—to any number unless circumstances arise to restrict the generality—to any number, where nothing arises to vary or limit the conclusion. We mix an acid and alkali, and form a neutral salt having peculiar properties. We pass a sun-beam or the light of a candle through a prism, and observe the rays separated into lights making certain colours. Why do we conclude from hence that all the acid made by burning sulphur, in what way soever the sulphur was produced or the combustion effected, will be neutralized by soda wheresoever produced and howsoever obtained, and that their union will always make Glauber's salts? Or, that all light, of all kinds, even that obtained by burning newly-discovered bodies, as the metal of potassium, unseen, unknown before the year 1807, will be found resolvable into the seven primary colours? According to Mr. Hume's argument, we have no right to infer that any one portion of acid or alkali, save the one we have subjected to our experiments, or any light save that of the formerly-known combustible bodies, or rather of those classes of them on which we had experimented—nay of the individuals of those classes which we have burnt—will produce the effects we have experienced in our laboratory, or in our darkened chamber. In other words, according to this argument, all experimental knowledge must stand still, generalizing be at an end, and philosophers be content never to make a single step, or draw one conclusion beyond the mere facts observed by them: in a word, Inductive Science must be

turned from a process of general reasoning upon particular facts, into a bare dry record of those particular facts themselves.

If, indeed, it be said that we never can be so certain of the things we infer as we are of those we have observed, and on which our inference is grounded, we may admit this to be true. But no one therefore denies the value of the science which is composed of the inferences. So we cannot be so well assured of the Deity's power to repeat and to vary and to extend his operations, as we are of his having created what we actually observe; and yet our assurance may be quite sufficient to merit entire confidence. Nor will any student of Natural Theology complain if the only result of the argument we are combating be to place the higher truths of the science but a very little lower in point of proof than the inferences of design in the works actually examined. The selfsame difference is to be found in the inferences composing the other branches of inductive science, and it in no perceptible degree lessens our confidence in the inductive method.

It has oftentimes been asked, why we believe that the same result will happen from the same cause acting in the like circumstances—the foundation of all induction; and no answer has ever been given except that we cannot help so believing—that the condition of our being—the nature of our minds—compels us so to believe; and we take this as an ultimate fact incapable of being resolved into any fact more general. Can we help believing that a being capable of creating what we

see and examine, is also capable of exercising other acts of skill and power? Can we avoid believing that the same power which made all the animals and vegetables on our globe suffices to people and provide other worlds in like manner? Again, can we by any effort bring our minds to suppose that this being's whole skill and power were exhausted by one effort, and that having sufficed to create the universe, it ceases to be effective for any other purpose whatever? The answer is, that we cannot—that we can as soon believe in the sun not rising to-morrow, or in his light ceasing to be differently refrangible.

Much is said in the course of arguments like the present of the word "*infinite*." Whether or not we are able to form any precise idea of that which has no bounds in power or in duration may be another question. But when we see such stupendous exertions of power, upon a scale so vast as far to pass all our faculties of comprehension, and with a minuteness at the same time so absolute, that, as we can on the one hand perceive nothing beyond its grasp, so we are on the other hand unable to find anything too minute to escape its notice, we are irresistibly led to conclude that there is nothing above or below such an agent, and that nothing which we can conceive is impossible for such an intelligence. The argument of Mr. Hume supposes or admits that the whole universe is its work, and that animal life is its creation. We can no more avoid believing that the same power which created the universe can sustain it—that the same power which created our souls can

prolong their existence after death—than we can avoid believing that the power which sustained the universe up to the instant we are speaking, is able to continue it in being for a thousand years to come. But indeed Mr. Hume's argument would go the length of making us disbelieve that the Deity has the power of continuing the existence of the creation for a day. We are only entitled, according to this argument, to conclude that the Deity had the power of working the works we have seen and no more. Last spring and autumn we observed the powers of nature in vegetation, that is, we noted the operations of the Deity in that portion of his works, and were entitled, Mr. Hume admits, to infer that he had the skill and the power to produce that harvest from that seed time, but no more. We had, says the argument, no right whatever to infer that the Deity's power extended to another revolution of the seasons. The argument is this, or it is nothing. Confining its scope, as Mr. Hume would confine it, to the universe as a whole, and excluding all inferences as to a future state or other worlds, is wholly gratuitous. The argument applies to all that we have seen of the already past and the actually executed in this universe, and excludes all respecting this same universe which is yet to come; consequently, if it be good for anything, it is sufficient to prove that, although our experience may authorise us to conclude that the Deity has skill and power sufficient to maintain the world in its present state up to this hour, yet that experience is wholly insufficient to prove that he has either skill or power to

continue its existence a moment longer. Every one of the topics applied by him to a Future State applies to this. If we have no right to believe that one exertion of skill proves the author of nature adequate to another exertion of a kind no more difficult and only a little varied, we can have no right to believe that one exertion of skill proves him adequate to a repetition of the same identical operation. Now no man living carries or can carry his disbelief so far as this. Indeed such doubts would not only shake all inductive science to pieces, but would put a stop to the whole business of life. And assuredly we may be well contented to rest the truths of Natural Theology on the same foundation upon which those of all the other sciences, as well as the practical conduct of all human affairs, must for ever repose.

Note VI.—Page 94.

Of the Ancient doctrines respecting Mind.

The opinions of the ancient philosophers upon the nature of the Soul were not very consistent with themselves; and in some respects were difficult to reconcile with the doctrine of its immateriality, which most of them maintained. It may suffice to mention a few of those theories.

Plato and his pupil Aristotle may certainly be said to have held the Soul's immateriality; at least, they main-

tained that it was of a nature wholly different from the body; and they appear often to hold that it was unlike all matter whatever, and a substance or existence of a nature quite peculiar to itself. Their language is nearly the same upon this subject. Plato speaks of the ουσια ασωματος και νοητη—*a bodiless* or *incorporeal and intelligent being;* and of such existences he says, in one place, τα ασωματα καλλιστα οντα και μεγιστα λογῳ μονον, αλλῳ δε ουδενι σαφως δεικνυται—"*Things incorporeal being the most excellent and the greatest of all, are made manifest by reason alone, and no otherwise.*" (*Politicus.*) So again in the *Cratylus*, he derives σωμα from σωζεσθαι, and represents the body as a prison of the soul, εικονα δεσμωτηριου ειναι ουν της ψυχης αυτο εως ην τα οφειλομενα το σωμα, following herein the doctrine said to have been delivered by Orpheus. Aristotle, too, speaks of a being separable and separated from things perceivable by the senses—ουσια χωριστη και κεχωρισμενη των αισθητων. Nevertheless, these philosophers frequently speak of the soul as being always, and as it were necessarily, connected with matter of some kind or other—αει ψυχη επιτεταγμενη σωματι, τοτε μεν αλλῳ, τοτε δε αλλῳ. *The soul is always annexed to a body, sometimes to one and sometimes to another.*—*De Legg.* x. Thus Aristotle, (*De Gener. Anim.* ii. 4.) η γαρ ψυχη ουσια σωματος τινος εστι—*the soul is the substance of some kind of body.* And in the treatise *De Anima*, ii. 2, he says—και δια τουτο καλως ὑπολαμβανουσιν, οἱς δοκει μητε ανευ σωματος ειναι μητε σωμά τι ψυχη· σωμα μεν γαρ ουκ εστι, σωματος δε τι—"*Those therefore rightly*

hold who think that the soul cannot exist without the body, and yet that it is not body; it is not the body, but somewhat of the body."

This corporeal connexion is stated by Plutarch, in the *Quæst. Platon.*, still more plainly to have been the Platonic doctrine—ψυχην αει πρεσβυτεραν του σωματος, αιτιαν τε της εκεινου γενεσεως και αρχην·—ουκ αν γενεσθαι ψυχην ανευ σωματος, ουδε νουν ανευ ψυχης· αλλα ψυχην μεν εν σωματι, νουν δε εν τη ψυχη. "*The soul is older than the body, and the cause and origin of its existence: not that the soul exists without the body, or the understanding without the soul; but that the soul is in the body, and the understanding in the soul.*"

According to these representations and quotations taken together, Plato held the soul to be an immaterial substance, separable from any given body, but incapable of existing without some body or other, and the mind or understanding to be a part of the soul. The residue of the soul was, as we shall afterwards see, its sensitive or mortal portion.

The idea of motion seems to have been intimately connected in their views with mind or spirit, and in so far their doctrines approach those, if we can call them doctrines, of the modern atheists (See Note IV.)—το εαυτο κινειν (says Plato), φης λογον εχειν την αυτην ουσιαν ᾗπερ τουνομα, ὃ δη παντες ψυχην προσαγορευομεν; φημι γε—*You say that the substance* (or *being*) *to which we all give the name of soul, has for its definition* "*that which moves itself*"? *I certainly do say so.*—*De Legg.* x.

But the same philosophers also held the soul to be an

emanation from the Deity, and that each individual soul was a portion of the Divine Essence, or Spirit: consequently, they could not mean to assert that the divine essence was inseparable from matter of some kind, but only those portions of that essence which they represented to be severed, and as it were torn off, from the divine mind—*συναφεις τῳ θεῳ, ἀτε αυτου μορια ουσια και αποσπασματα.*—(*Epict.*)

Plutarch, in the work already cited, says—*ἡ δε ψυχη ουκ εργον εστι του θεου μονον αλλα και μερος· ουδ' ὑπ' αυτου αλλ' απ' αυτου, και εξ αυτου, γεγονεν*—"*The soul is not only his work, but a part of himself; it was not created by him, but from him and out of him.*"

NOTE VII.—PAGE 94.

Of the ancient Doctrines respecting the Deity and Matter.

THE notions of the Supreme Being entertained by the ancient philosophers were more simple and consistent than their theory of the soul; and but for the belief, which they never shook off, in the eternity of matter, would very nearly have coincided with our own. They give him the very same names, and clothe him apparently in the like attributes. He is not only *αθανατος, αφθαρτος, ανωλεθρος—immortal, incorruptible, indestructible*—but *αγεννητος, αυτογενης, αυτοφυης, ανυποστατος—uncreated,*

self-made, self originating, self-existing. Ζωον πασαν εχον μακαριοτητα μετ' αφθαρσιας, says Epicurus—"*A Being having all happiness, with an incorruptible nature.*" Again, he is παντοκρατωρ, παγκρατης—*omnipotent, all-powerful;* δυναται γαρ απαντα, says Homer (*Odyss.* ξ)—"*He has power over all things.*" The creative power is also in words at least ascribed to him—κοσμοποιητης, δημιουργος—*the maker of the world, the great artificer.* Aristotle, too, in a very remarkable passage of the Metaphysics, says that God seems to be the cause of all things, and, as it were, a beginning, or principle—Θεος δοκει το αιτιον πασιν ειναι και αρχη τις: and, indeed, by implication, this is ascribed in the terms *uncreated, self-created,* and *self-existing;* for in soundness of reason the being who had no creator, and much more the being who created himself (if we can conceive such an idea), must have created all things else. Nevertheless, such was certainly not so plain an inference of reasoning with the ancients; for whether it be that by αυτοφυης and αυτογενης, they only meant to convey the idea of αγενητος—of a being uncreated and existing from all eternity—or that they took some nice distinction, to us incomprehensible, between self-creation and the creation of other beings or things—certain it is, that the same philosophers who so described the Deity clung to the notion of matter being also eternal, and co-existent with the supreme power, and that by creator and artificer they rather seem to have meant the arranger of atoms—the power giving form to chaotic matter, than the power calling things into existence. They appear to

have been all pressed by the difficulty (and who shall deny it?) of conceiving the act of creation—the act of calling existences out of nothing. Accordingly, the maxim which generally prevailed among most of the Greek sects, and which led to very serious and even practical consequences in their systems, was ουδεν εκ μη οντος (or εξ ουδενος) γινεσθαι—*that nothing is made of what has no existence, or of nothing.* Aristotle represents this as the common opinion of all natural philosophers before him—κοινην δοξαν των φυσικων. He says, in another passage (*De Cœlo*, iii. 1.)—οι μεν αυτων (προτερον φιλοσοφησαντες) ανειλον ὁλως γενεσιν και φθοραν· ουδεν γαρ ουτε γιγνεσθαι φασιν ουτε φθειρεσθαι των οντων—"*Some of those (older philosophers) took away (or abolished) all generation and destruction, for they hold that none of the things which exist are either created or destroyed.*" Nevertheless, it cannot be doubted that the Platonic doctrine was of the same kind, and that Aristotle, in truth, ascribed only a qualified creative power to the Deity. Plutarch's statement of the Platonic doctrine is precise to this point—βελτιον ουν Πλατωνι πειθομενους τον μεν κοσμον ὑπο θεου γεγονεναι λεγειν και αδειν· ὁ μεν γαρ καλλιστος των γεγονοτων, ὁδε αριστος των αιτιων· την δε ουσιαν και ὑλην εξ ἡς γεγονεν, ου γενομενην, αλλα ὑποκειμενην αει τῳ δημιουργῳ, εις διαθεσιν και ταξιν αυτης και προς αυτον εξομοιωσιν, ὡς δυνατον ην παρασχειν· ου γαρ εκ του μη οντος γενεσις, αλλ' εκ του μη καλως, μηδ' ικανως εχοντος, ὡς οικιας, και ἱματιου, και ανδριαντος—"*Better then be convinced by Plato, and say and sing that the world was made by God; for the*

world is the most excellent of all created things, and he the best of all causes. But the substance or matter (literally *timber*) *of which he made it, was not created, but always lay ready for the artificer, to be arranged and ordered by him; for the creation was not out of nothing, but out of what had been without form and unfit, as a house, or a garment, or a statue are made.*" And thus it seems that when Maker or Creator is used by the Academics, we are rather to regard them as meaning Maker in the sense in which an artificer is said to make or fabricate the object of his art. Εποιησεν ων (says Timæus) τονδε τον κοσμον εξ ἁπασας τας ὑλας—*He made the world of all kinds of matter.*—*De An. Mund.* Indeed, I can in no other way understand that very obscure, and but for some such gloss, contradictory passage of Aristotle, in the first book of the *Physics*, where he is giving his own doctrine in opposition to the tenets of the elder philosophers on this point —Ἡμεις δε και αυτοι φαμεν γιγνεσθαι μεν ουδεν ἁπλως εκ μη οντος, ὁμως μεντοι γιγνεσθαι εκ μη οντος, οἱον κατα συμβεβηκος· εκ γαρ της στερησεως ὁ εστι καθ' αὑτο μη ον, ουκ ενυπαρχοντος γιγνεται τι. θαυμαζεται δε τουτο και αδυνατον οὑτω δοκει γιγνεσθαι τι εκ μη οντος— "*We ourselves however say that nothing is absolutely* (or *merely*) *produced from what has no existence, yet that something is produced from that which has no existence as far as regards accidents* (or *accessory qualities*); *for something is produced from privation, which has no existence in itself, and not from anything inherent. But this is wonderful, and seems impossible, that some-*

thing should be produced out of that which has no existence."—(*Phys.* i. 8.) Indeed he had said in the same treatise, just before, that all confessed it impossible and inconceivable that *any being could either be created out of nothing, or be utterly destroyed*—εκ μη οντος γινεσθαι τοτε ου εξολλυσθαι ανηνυστον και αρρηκτον. (*Ib.* i. 5.)

Upon the uncreated nature of things—for the doctrine extended to mind as well as to matter—the ancient philosophers founded another tenet of great importance. Matter and soul were reckoned not only uncreated, but indestructible; their existence was eternal in every sense of the word, without end as without beginning: μηδεν εκ του μη οντος γινεσθαι, μηδε εις το μη ον φθειρεσθαι —"*Nothing can be produced out of that which has no existence, nor can any thing be reduced to nonentity.*" Such is Diogenes Laertius's account of Democritus's doctrine, or the Atomic principle,

> "Principium hinc cujus nobis exordia sumet,
> Nullam rem e nihilo gigni divinitus unquam."—
> "Huc accedit uti quidque in sua corpora rursum
> Dissolvat natura, neque ad nihilum interemt res"—
> "Haud igitur redit ad nihilum res ulla, sed omnes
> Discidio redeunt in corpora materiai"—

are the expressions of Lucretius, in giving an account of the Epicurean Philosophy (i. 151, 217, 249), or, as Persius more shortly expresses it,

> "De nihilo nihil, in nihilum nil posse reverti."—*Sat.* iii. 84.

And it must be admitted that they reasoned with great consistency in this respect; for if the difficulty of com-

prehending the act of creation out of nothing was a sufficient ground for holding all things to be eternal *a parte ante*—the equal difficulty of comprehending the act of annihilation was as good a ground for believing in their eternity *a parte post*—there being manifestly just as much difficulty, and of the same kind, in comprehending how a being can cease to exist, as how it can come into existence.

From this doctrine mainly it is that the Greek philosophers derive the immortality of the soul, as far as the metaphysical and more subtle arguments for their belief go; and accordingly its pre-existence is a part of their faith as much as its future life, the eternity *ab ante* being as much considered as the eternity *post*. Thus Plato says that "*our soul was somewhere before it existed in the human form, so that also it seems to be immortal afterwards*"—ην που ἡμων ἡ ψυχη πριν εν τωδε τῳ ανθρωπινῳ ειδει γενεσθαι, ὡστε και ταυτη αθανατον τι εοικεν η ψυχη ειναι.—*(Phæd.)* Nevertheless, it must be admitted that their doctrine of future existence is most unsatisfactory as far as it is thus derived, that is, their psychological argument: and for two reasons—*first*, because it is coupled with the tenet of pre-existence, and having no kind of evidence of that from reasoning, we not only are prone to reject it, but are driven to suppose that our future existence will in like manner be severed by want of recollection from all consideration of personal identity; *secondly*, because, according to the doctrine of the soul being an emanation from the Deity, its future state implies a return to the divine essence, and a confusion with or absorption in that supreme intelligence, and conse-

quently an extinction of individual existence: a doctrine which was accordingly held by some of the metaphysical philosophers who maintained a Future State.

In one important particular there was an entire difference of opinion among the ancient philosophers—in truth, so important a difference, that those were held not to be theists, but atheists, who maintained one side of the argument—I mean as to Providence. The Atomists and Epicureans held that there were Gods, and upon the subject of creative power they did not materially differ from those generally called theists; but they denied that these Gods ever interfered in the affairs of the universe. The language of Plato and the other theists upon this subject is very strong. They regard such a doctrine as one of the three kinds of blasphemy or sacrilege; and in the Republic of that philosopher, all the three crimes are made equally punishable with death. The first species is denying the existence of a Deity, or of Gods—το δε δευτερον, οντας (θεους) ου φροντιζειν ανθρωπων. "*The second, admitting their existence, but denying that they care for man.*" The third kind of blasphemy was that of men attempting to propitiate the Gods towards criminal conduct, as φονοι and αδικηματα, *slaughters* and *outrages upon justice*, "*by prayers, thanksgivings, and sacrifices—thus making those pure beings the accomplices of their crimes, by sharing with them a small portion of the spoil, as the wolves do with the dogs.*"—*De Legg.* x.*

* Who can read these, and such passages as these, without wishing that some who call themselves Christians, some Christian Principalities and Powers, had taken a lesson from the heathen

Note VIII.—Page 131.

Of the ancient Doctrine of the Immortality of the Soul.

That the ancient philosophers for the most part believed in the Future Existence of the Soul after death is undeniable. It is equally certain that their opinions upon this important subject varied exceedingly, and that the kind of immortality admitted by one class can hardly be allowed to deserve the name. Thus they who considered it as a portion of the Divine essence severed for a time, in order to be united with a perishable body, believed in a future existence without memory or consciousness of personal identity, and merely as a re-uniting of it with the Divine mind. Such, however, was not the belief of the more pure and enlightened theists; and to their opinion, as approaching nearest our own, it is proposed to confine the present notice.

In one respect, even the most philosophical of those theories differed widely from the Christian faith, and indeed departed almost as widely from the intimations of sound reason. They all believed in the soul's pre-

sage, and (if their nature forbade them to abstain from massacres and injustice) at least had not committed the scandalous impiety, as he calls it, of singing in places of Christian worship, and for the accomplishment of their enormous crimes, Te Deums, which in Plato's Republic would have been punished as blasphemy? Who, indeed, can refrain from lamenting another pernicious kind of sacrilege (an anthropomorphism) yet more frequent—that of making Christian temples resound with prayers for victory over our enemies, and thanksgiving for their defeat? Assuredly such a ritual as this is not taken from the New Testament.

existence. This is expressly given as proved by facts, and as one argument for immortality or future existence, by Plato in the most elaborate treatise which remains upon the subject, the *Phædo*. He considers that all learning is only recollection, *την μαθησιν αναμνησιν ειναι*, and seems to think it inconceivable that any idea could ever come into the mind, of which the rudiments had not formerly been implanted there. In the *Timæus* and other writings the same doctrine is further expounded. *Ην που ἡμων ἡ ψυχη πριν εν τῳδε τῳ ανθρωπινῳ ειδει γενεσθαι, ὡστε και ταυτη αθανατον τι εοικεν ἡ ψυχη ειναι.* "*Our soul existed somewhere before it was produced in the human form (or body), so that it seems to be immortal also.*" The arguments indeed, generally speaking, on which both Plato and other philosophers ground their positions, derive their chief interest from the importance of the subject, and from the exquisite language in which they are clothed. As reasonings they are of little force or value. Thus it is elaborately shown, or rather asserted in the *Phædo*, that contraries always come from contraries, as life from death, and death from life, in the works of Nature. Another argument is that the nature or essence of the soul is immortality, and hence it is easily inferred that it exists after death, a kind of reasoning hardly deserving the name—*Οποτε δη το αθανατον και ἀδιαφθορον εστιν, αλλο τι ψυχη, η ει αθανατος τυγχανει ουσα, και ανωλεθρος αν ειη*—"*Since that which is immortal is also indestructible, what else can we conclude but that the soul being* (or *happening to be*) *immortal, must*

also be imperishable." (*Phæd.*) A more cogent topic is that of its simplicity, from whence the inference is drawn that it must be indestructible, because what we mean by the destruction of matter is its resolution into the elements that compose it. In one passage, Plato comes very near the argument relied on in the text respecting the changes which the body undergoes; but it appears from the rest of the passage that he had another topic or illustration in view—αλλα γαρ αν φαιην εκαστην των ψυχων πολλα σωματα κατατριβειν, αλλως τε κἀν πολλα ετη βιῳ. Ει γαρ ῥεοι το σωμα και απολλυοιτο, ετι ζωντος του ανθρωπου, αλλ' ἡ ψυχη αει το κατατριβομενον ανυφαινοι, αναγκαιον μεντ' αν ειη, ὁποτε απολλυοιτο ἡ ψυχη, το τελευταιον ὑφασμα τυχειν αυτην εχουσαν, και τουτου μονου προτεραν απολλυσθαι—"*But I should rather say that each of our souls wears out many bodies, though these should live many years; for if the body runs out and is destroyed, the man still living, but the soul always repairs that which is worn out, it would follow of necessity that the soul when it perished would happen to have its last covering, and to perish only just before that covering.*" —*Phæd.* A singular instance of the incapacity of the ancients to observe facts, or at least the habitual carelessness with which they admitted relations of them, is afforded in another of these arguments. Socrates is made to refer, in the *Phædo*, to the appearance of ghosts near places of burial as a well-known and admitted fact, and as proving that a portion of the soul for a while survived the body, but partook of its nature and likeness, and was not altogether immortal. This distinction between

the mortal or sensitive and the immortal or intellectual part of the soul pervades the Platonic theism. We have observed already in the statement of Plutarch, that the Platonists held the νους or intellect to be contained in the ψυχη or soul, and the same doctrine occurs in other passages. Aristotle regards the soul in like manner as composed of two parts—the active, or νους, and the passive: the former he represents as alone immortal and eternal; the latter as destructible, τουτο μονον αθανατον και αϊδιον, ὁ δε παθητικος φθαρτος.—*Nic. Eth.*

It must, however, be admitted, that the belief of the ancients was more firm and more sound than their reasonings were cogent. The whole tenor of the doctrine in the *Phædo* refers to a renewal or continuation of the soul as a separate and individual existence, after the dissolution of the body, and with a complete consciousness of personal identity—in short, to a continuance of the same rational being's existence after death. The liberation from the body is treated as the beginning of a new and more perfect life—τοτε γαρ αυτη καθ' αὑτην ἡ ψυχη εσται χωρις του σωματος· προτερον δ' ου (τελευτησασι). Xenophon thus makes Cyrus deliver himself to his children on his death-bed—Ουτοι εγωγε, ω παιδες, ουδε τουτο πωποτε επεισθην ὡς ἡ ψυχη, ἑως μεν αν εν θνητῳ σωματι ᾖ, ζην, ὁταν δε τουτου απαλλαγῃ, τεθνηκεν—ουδε γε ὁπως αφρων εσται ἡ ψυχη, επειδαν του αφρονος σωματος δίχα γενηται, ουδε τουτο πεπεισμαι· αλλ' ὁταν ακρατος και καθαρος ὁ νους εκκριθῃ, τοτε και φρονιμωτατον εικος αυτον ειναι.* Cicero has translated the whole pas-

* Cyrop. ii.

sage upon this subject beautifully, though somewhat paraphrastically; but this portion he has given more literally — "Mihi quidem nunquam persuaderi potuit, animos dum in corporibus essent mortalibus, vivere; quum exissent ex iis, emori: nec vero tum animum esse insipientem, quum ex insipienti corpore evasisset; sed quum omni admixtione corporis liberatus purus et integer esse cœpisset, eum esse sapientem."*

None of the ancients, indeed, has expressed himself more clearly or more beautifully upon the subject than this great philosopher and rhetorician. His reasoning, too, respecting it greatly exceeds in soundness and in sagacity that of the Grecian sages. Witness the admirable argument in the Tusculan Questions. They who deny the doctrine, says he, can only allege as the ground of their disbelief the difficulty of comprehending the state of the soul severed from the body, as if they could comprehend its state in the body. "Quasi vero intelligant, qualis sit in ipso corpore, quæ conformatio, quæ magnitudo, qui locus."—"Hæc reputent isti (he adds) qui negant animum sine corpore se intelligere posse; videbunt quem in ipso corpore intelligant. Mihi quidem naturam animi intuenti, multo difficilior occurrit cogitatio, multoque obscurior, qualis animus in corpore sit, tanquam alienæ domi, quam qualis, cum exierit, et in liberum cœlum quasi domum suum venerit."† That he derived the most refined gratification from such con-

* De Senect. 80. — Here the words "omni admixtione," &c. are added.

† Tusc. Quæst. i. 22.

templations, many passages of his writings attest. None more than those towards the close of the Cato Major, which must often have cheered the honest labourers for their country and their kind in the midst of an ungrateful and unworthy generation. "An censes (ut de me ipso aliquid more senum glorier) me tantos labores diurnos nocturnosque, domi militiæque suscepturum fuisse, si iisdem finibus gloriam meam, quibus vitam essem terminaturus? Nonne melius multo fuisset otiosam ætatem et quietam sine ullo labore aut contentione traducere?" "Think you—to speak somewhat of myself after the manner of old men—think you that I should ever have undergone such toils, by day and by night, at home and abroad, had I believed that the term of my life was to be the period of my renown? How much better would it have been to wile away a listless being and a tranquil, void of all strife, and free from any labour?"* And again, that famous passage: "O præclarum diem quum ad illud divinum animorum concilium cætumque proficiscar; quumque ex hac turba et colluvione discedam!" "Delightful hour! when I shall journey towards that divine assemblage of spirits, and depart from this crowd of polluted things!" †

The Platonic ideas of a future state, as well as those adopted by the Roman sage, distinctly referred to an account rendered, and rewards or punishments awarded for the things done in the body—χρη παντα ποιειν, says Plato, ὡστε αρετης και φρονησεως εν τῳ βιῳ μεταςχειν· καλον γαρ ταθλον και ἡ ελπις μεγαλη—"*We ought to act*

* De Senect. 82. † Ibid. 85.

in all things so as to pursue virtue and wisdom in this life, for the labour is excellent and the hope great."—(*De Legg.* x.) Τον δε οντα ἡμων ἑκαστον οντως αθανατον ειναι, ψυχην επονομαζομενον, παρα θεοις αλλοις απιεναι, δωσοντα λογον, καθαπερ ὁ νομος ὁ πατριος λεγει, τῳ μεν αγαθῳ θαρραλεον, τῳ δε κακῳ μαλα φοβερον—"*In truth each of us—that is to say, each soul—is immortal, and departs to other Gods* (or *Gods in another world*), *to render an account as the laws of the state declare. This to the good is matter of confidence, but to the wicked of terror.*"—(*De Legg.* xii.) So in the beginning of the *Epinomis*, he says that a glorious prospect (καλη ελπις) is held out to us of attaining, when we die, the happiness not to be enjoyed on earth, and to gain which after death we had exerted all our efforts. In the *Phædo*, where he is giving a somewhat fanciful picture of the next world, he tells us that souls which have committed lesser crimes come εις την λιμνην και εκει οικουσι τε και καθαιρομενοι των δε αδικηματων διδοντες δικας απολυονται ει τις τι ηδικηκε—"*they remain in that space, and being cleansed (or purged) of their offences, are released;*" (from whence the idea and the name of *purgatory* has been taken.) But such as have been incurably wicked, murderers and others, are driven, he says, into Tartarus, ὁθεν ουποτε εκβαινουσιν, "*whence they never more escape.*"* It is remarkable, that in the same work, Plato, if some words have not been interpolated in the text, looks forward to some direct divine communications of light upon this subject; but recommends

* Phæd.

abiding by the light of reason till that shall be granted. Let us, he says, choose the best human reason, and, sitting on it like a raft, pass through the dangers of life, unless (or until) εἰ μήτις δύναιτο ἀσφαλέστερον καὶ ἀκινδυνότερον ἐπὶ βεβαιοτέρου ὀχήματος ἢ λόγου θείου τινος διαπορευθῆναι—"*unless some one can pass us over more easily and safely upon some stronger vehicle or divine word.*"*

The passage in the *Somnium Scipionis*, where celestial enjoyments are held out as the rewards of public virtue, is well known. The precision indeed of the language touching a future state, which marks this treatise, is singular, approaching to that of the New Testament—"beati ævo sempiterno fruuntur"—"ea vita via est in cœlum et in hunc cœtum eorum qui jam vixerunt et corpore laxati illum incolunt locum"—"immo vero ii vivunt, qui ex corporum vinculis, tanquam e carcere, evolaverunt; vestra vero, quæ dicitur vita, mors est"—"sic habeto, non esse te mortalem, sed corpus hoc; nec enim tu is es, quem forma ista declarat, sed mens cujusque, is est quisque"—"animus in domum suam pervolabit, idque ocius faciet, si jam tum, quum erit inclusus in corpore, eminebit foras, et ea quæ extra erunt contemplans, quam maxime se à corpore abstrahet." These things have given rise to doubts of the authenticity of the treatise—doubts easily removed by looking to the many absurdities respecting the celestial bodies and the other accompaniments of heaven with which the work abounds; to the Platonic doctrine respecting

* Phæd.

motion as the essence of mind, which it adopts; and also to the doctrine distinctly stated of the pre-existent state.

Note IX.—Page 131.

Of Bishop Warburton's Theory concerning the ancient Doctrine of a Future State.

To any one who had read the extracts in the last Note, but still more to one who was familiar with the ancient writers from whose works they are taken, it might appear quite impossible that a question should ever be raised upon the general belief of antiquity in a Future State, and the belief of some of the most eminent of the philosophers, at least, in a state of rewards and punishments. Nevertheless as there is nothing so plain to which the influence of a preconceived opinion and the desire of furthering a favourite hypothesis will not blind men, and as their blindness in such cases bears even a proportion to their learning and ingenuity, it has thus fared with the point in question, and Bishop Warburton has denied that any of the ancients except Socrates really believed in a future state of the soul individually, and subject to reward or punishment. He took up this argument because it seemed to strengthen his extraordinary reasoning upon the Legation of Moses. It is therefore necessary first to state how his doctrine bears upon that reasoning.

His reasoning is this. The inculcating of a future state of retribution is necessary to the well-being of society. All men, and especially all the wisest nations of antiquity, have agreed in holding such a doctrine necessary to be inculcated. But there is nothing of the kind to be found in the Mosaic dispensation. And here he pauses to observe that these propositions seem too clear to require any proof. Nevertheless his whole work is consumed in proving them; and the conclusion from the whole, that therefore the Mosaic law is of Divine original, is left for a further work, which never appeared; and yet this is the very position which all, or almost all who may read the book, and even yield their assent to it, are the most inclined to reject. Indeed it may well be doubted if this work, learned and acute as it is, and showing the author to be both well read and well fitted for controversy, ever satisfied any one except perhaps Bishop Hurd, or ever can demonstrate any thing so well, as it proves the preposterous and perverted ingenuity of an able and industrious man.

That such was very far from being the author's opinion we have ample proof. He terms his work "A Demonstration." He describes his reasoning "as very little short of mathematical certainty," and "to which nothing but a mere physical possibility of the contrary can be opposed;" and he declares his only difficulty to be in "telling whether the pleasure of the discovery or the wonder that it is now to make be the greater." Accordingly in the correspondence between him and his friend Bishop Hurd, the complete success of the "De-

monstration" is always assumed, and the glory of it is made the topic of endless and even mutual gratulation, not without pity and even vituperation of all who can remain dissatisfied, and who are habitually and complacently classed by name with the subjects of Pope's well-known satire.

The two things which the author always overlooked were the possibility of a human lawgiver making an imperfect system, and of sceptics holding the want of the sanction in question to be no argument for the divine origin of the Mosaic law, but rather a proof of its flowing from a human and fallible source. As these "mere possibilities" are wholly independent of the admission that every word in the book is correct, and all the positions are demonstrated, and as nothing whatever is said to exclude such suppositions, it is manifest that a more useless and absurd argument never was maintained upon any grave and important subject. The merit of the book lies in its learning and its collateral argument; indeed nearly the whole is collateral, and unconnected with the purpose of the reasoning. But much even of that collateral matter is fanciful and unsound. The fancy that the descent of Æneas to hell in the sixth book of the Æneid is a veiled account of the Eleusinian Mysteries, has probably made as few proselytes as the main body of the "Demonstration;" and if any one has lent his ear to the theory that the ancients had no belief in a future state of retribution, it can only be from being led away by confident assertion from the examination of the facts.

This position of Bishop Warburton is manifestly

wholly unnecessary to the proof of his general theory. But he thought it would show more strongly the opinion entertained of the uses to be derived from inculcating the doctrine of a Future State, if he could prove that they who held it in public and with political views, did not themselves believe it.

The way in which he tries to prove this is by observing that there prevailed among the old philosophers as well as lawgivers a principle of propagating what they knew to be false opinions for the public benefit, and of thus holding one kind of doctrine in secret, the *esoteric*, and another, the *exoteric*, in public. Of this fact there is no doubt, but its origin is hardly to be thus traced to design always prevailing. The most ancient notions of religion were the birth of fear and ignorance in the earliest ages, and the fancy of the poets mingled with these, multiplying and improving and polishing the rude imaginations of popular terror and simplicity. The rulers of the community, aiding themselves by the sanctions which they drew from thence, favoured the continuance and propagation of the delusions; and philosophers who afterwards arose among the people were neither disposed themselves nor permitted by the magistrate openly to expose the errors of the popular faith. Hence they taught one doctrine in private, while in public they conformed to the prevailing creed, and the observances which it enjoined.

But whatever be the origin of the double doctrine, Bishop Warburton cannot expect that its mere existence and the use made of it by ancient writers and teachers

will prove his position, unless he can show that the future state of retribution is only mentioned by them upon occasions of an *exoterical* kind, and never when *esoterically* occupied. Now this he most signally fails to do; indeed he can hardly be said fairly to make the attempt, for his rule is to make the tenor of the doctrine the criterion of *esoteric* or *exoteric*, instead of showing the occasion to be one or the other from extrinsic circumstances, which is manifestly begging the question most unscrupulously. It seems hardly credible that so acute and practised a controversialist should so conduct an argument, but it is quite true. As often as any thing occurs in favour of a Future State, he says it was said *exoterically;* and whenever he can find anything on the opposite side, or leaning towards it, (which is really hardly at all in the Platonic or Ciceronian writings,) he sets this down for the *esoteric* sentiments of the writer. But surely if there be any meaning at all in the double doctrine, whatever may have been its origin, the occasion is everything, and there can be no difficulty in telling whether any given opinion was maintained *exoterically* or not, by the circumstances in which, and the purposes for which, it was propounded.

The argument on which he dwells most is drawn from the allusion made by Cæsar in the discussion upon the punishment of the conspirators as related by Sallust, "Ultra (mortem) neque curæ neque gaudio locum esse;" and from the way in which Cato and Cicero evade, he says, rather than answer him, appealing to the traditions of antiquity and the authority of their ancestors instead

of arguing the point. (*Div. Leg.* iii. 2. 5.) Can any thing be more inconclusive than this? Granting that Sallust, in making speeches for Cæsar and Cato (whom by the way he makes speak in the self-same style, that is, in his own Sallustian style), adhered to the sentiments each delivered; and further, that Cæsar uses this strange topic not as a mere rhetorical figure, but as a serious reason against capital punishment, and as showing that there is mercy and not severity in such inflictions (a very strong supposition to make respecting so practised and so practical a reasoner as Caius Cæsar); surely so bold a position as practical atheism brought forward in the Roman senate was far more likely to be met, whether by the decorum of Cato or the skill of Cicero, with a general appeal to the prevalence of the contrary belief, and its resting on ancient tradition, than with a metaphysical or theological discourse singularly out of season in such a debate. To make the case our own: let us suppose some member of Parliament, or of the Chamber of Deputies, so ill judged as to denounce in short but plain terms the religion of the country, would any person advert further to so extravagant a speech than to blame it, and in general expressions signify the indignation it had excited? Would not an answer out of Lardner, or Paley, or Pascal be deemed almost as ill timed as the attack? To be sure neither Cato nor Cicero are represented as testifying any great disgust at the language of Cæsar, but this, as well indeed as the topic being introduced at all by the latter, only shows that the doctrine of a Future State was not one

of the tenets much diffused among the people, or held peculiarly sacred by them. Had the orator vindicated Catiline by showing how much less flagitious his bad life was than that of some of the gods to whom altars were erected and worship rendered, a very different burst of invective would have been called down upon the blasphemous offender.

In truth, the passage thus relied upon only shows, like all the rest of the facts, that the doctrine of retribution was rather more *esoteric* than *exoteric* among the ancients. The elaborate dissertation of Bishop Warburton upon the Mysteries proves this effectually, and clearly refutes his whole argument. For to prove that the doctrine of future retribution was used at all as an engine of state, he is forced to allege that it was the secret disclosed to the initiated in the Sacred Mysteries; which, according to Cicero, were not to be viewed by the imprudent eye. (Ne imprudentiam quidem oculorum adjici fas est, *De Legg.* ii. 14.) Surely this would rather indicate that such doctrines were not inculcated indiscriminately, and that at all events, when a philosopher gives them a place in his works, it cannot be in pursuance of a plan for deceiving the multitude into a belief different from his own. It is indeed plain enough that the bulk of the people were restrained, if by any sanctions better than those of the penal laws, rather by the belief of [illegible] interposition from the gods. An expectation of [illegible] their favour or of punishment from them in this life and without any delay, formed the creed of the Greeks and Romans; and

nothing else is to be found in either the preamble to Zaleucus the Locrian's laws quoted by Bishop Warburton, or in the passages of Cicero's treatise, to which he also refers. (*Div. Leg.* ii. 3.)

Among the many notable inadvertencies of his argument, concealed from himself by an exuberant learning and a dogmatism hardly to be paralleled, is the neglecting to observe how difficultly the appearance of the doctrine in the places where we find it is reconciled with his notion of its having formed the subject of the Mysteries. What part in those Mysteries did Cicero's and Plato's and Seneca's and Xenophon's writings bear? There we have the doctrine plainly stated; possibly to the world at large—possibly, far more probably, to the learned reader only—but assuredly not by the Hierophant or the Mystagogue, to the initiated. This is wholly inconsistent with the notion of its being reserved for these alone. It is equally inconsistent with the theory that it was promulgated for the purposes of deception; for such purposes would have been far better served by decidedly making it a part neither of the instruction given to the select and initiated few, nor of the doctrine confined to the students of philosophy, but of the common, vulgar, popular belief and ritual which it is admitted not to have been. The truth undeniably is, that as, on the one hand, it was not universally preached and inculcated, so neither was it any mystery forbidden to be divulged—that it was no part of the vulgar creed, nor yet so repugnant to the religion of the country as to be concealed from prudential considerations, like the unity

of the Deity, the fabulousness of the ordinary polytheistic superstitions, as to the gods and goddesses, the demigods, and the Furies. These opinions were indeed *esoteric*, and only promulgated among the learned. A few allusions, and but a few, are found to them in any of the classical authors whose writings were intended for general perusal, and chiefly to the parts which had in process of time become too gross even for the vulgar, such as the Furies, Cerberus, &c., which Cicero describes as unfit for the belief of even an ignorant or doting old woman (Quæ anus tam excors, &c. *De Nat. Deor.*, and *Tusc. Quæst.*), and which are treated as fables both by Demosthenes in that noble passage where he exclaims that the Furies, who are represented in the scene as driving men with burning torches (ελαυνειν δᾳσιν ἡμμεναις), are our bad passions, and by Cicero in words (Hi faces, hæ flammæ, &c.) almost translated from the Greek.

After all, can any thing be more violent than the supposition that those philosophers, for the purpose of deceiving the multitude, delivered opinions not held by themselves, and delivered them in profound philosophical treatises? It is in the Phædo and the Timæus (hardly intelligible to the learned), and the Tusculan Questions, and [illegible] mnium Scipionis, in an age when there were [illegible] readers beyond the disciples of the [illegible] exoteric matters are supposed to be [illegible] ishing the purposes of popular delu[illegible] and speeches, read in the Portico or pronounced in the Forum. If then the records of their

opinions on the most recondite subjects were chosen for the depositories of *exoteric* faith, where are we to look for their *esoteric* doctrines? Bishop Warburton must needs answer, in the very same records; for to this he is driven, because he has none other; and he cannot choose but admit that the whole argument is utterly defective, if it stops short at only showing those opinions to have been delivered, even if proved to be *exoterical*, unless he can also show opposite doctrines to have been *esoterically* entertained—inasmuch as a person might grant the former to have been delivered for popular use (which, however, Bishop Warburton does not prove), and yet deny that they were assumed for the purpose of deception. Accordingly he is driven to find, if he can, proofs of those opposite doctrines in the self-same writings where he says the exoteric ones are conveyed. However, nothing surely can be more absurd than this; for it is to maintain that Plato and Cicero pretended to believe a future state of retribution in order to deceive the multitude, by stating it in the same writings in which they betrayed their real sentiments to be the very reverse. And this absurdity is the same, and this argument is as cogent, if we take the double doctrine to apply, not—as we are, in favour of the Bishop's argument, generally supposing—to a difference between what was taught in the face of the people and what was reserved for the scholars, but to a division of the scholars into two classes, one only of whom was supposed to see the whole truth—for the same writings on this subject are said to contain both the statements of it. Nevertheless

let us shortly see how he finds any such contrary statements, or any means of explaining away the positive and precise dicta, and even reasonings, cited in the former note. (Note VIII.)

1. There can be no doubt that both the Greek and Roman philosophers disbelieved part of the popular doctrine as to future retribution, those punishments, to wit, which are of a gross and corporeal nature; and, accordingly, what Timæus the Locrian and others have said of the τιμωριαι ξεναι proves nothing, for it applies to those only. Strabo plainly speaks of these only in the passage where he observes that women and the vulgar are not to be kept pious and virtuous by the lessons of philosophy, but by superstition, which cannot be maintained without mythology (fable-making) and prodigies (δια δεισιδαιμονιας· τουτο δ' ουκ ανευ μυθοποιιας και τερατειας), for he gives as examples of these, Jupiter's Thunder, the Snakes of the Furies, &c.

2. Nothing can be more vague than the inference drawn from such passages as those in Cicero and Seneca, where a doubt is expressed on the subject of a Future State, and a wish of more cogent proofs seems betrayed —as where Cicero makes one of his prolocutors, in the Tusculan Questions, say, that when he lays down the Phædo, which had persuaded him, "Assensio omnis illa elabitur," [illegible] and where Seneca speaks of the philosophers as "[illegible] promittentes magis quàm probentes," and [illegible] "bellum somnium." *Epist.* 102. No one pretends that the ancients had a firm and abiding opinion, founded on very cogent reasons, re-

specting a Future State; and with far sounder theologians than they were, the anxiety naturally incident to so momentous an inquiry may well excite occasional doubts, and even apprehensions. Who questions Dr. Johnson's general belief in Revelation, because in moments of depression, when desiderating some stronger evidence, he was kindly told by a religious friend that he surely had enough, and answered, "*Sir, I would have more?*"

3. When Strabo speaks of the Brahmins having invented fables, like Plato, upon future judgment, it is plain that he alludes to those speculations in the Phædo, which are avowedly and purposely given as imaginary respecting the details of another world. To no other part of the Platonic doctrine can the Brahminical mythology be likened: nor would there be any accuracy of speech at all in comparing those fables to the more abstract doctrines of the immortality of the soul, as the words literally do—(*ὥσπερ και Πλατων περι της αφθαρσιας ψυχης*).

4. The quotation from Aristotle may refer to this world merely, but it is certainly made a good deal stronger in Bishop Warburton's translation—*φοβερωτατον δε θανατος· περας γαρ, και ουδεν ετι τῳ τεθνεωτι δ' ουκ ει, ουτε αγαθον, ουτε κακον ειναι.* "Death (as our author renders it) is of all things the most terrible; for it is the final period of existence, and beyond that, it appears there is neither good nor evil for the dead, than the dread or hope." This is, at the best, a mere paraphrase. Aristotle says—*Death is most terrible, for it is an end (of*

us), *and there appears to be nothing further, good or bad, for the dead.* Even were we to take this as an avowal of the Stagyrite's opinion in the sense given it by Bishop Warburton, it proves nothing as to Plato.

4. Some of the Stoics seem certainly to have held that the dissolution of the body closed the scene, and that the body ceased to exist by the resolving of its mortal frame into the kindred elements. Nevertheless, many of their observations may be conceived to regard the vulgar superstitions, and many of their sayings to flow from the habit of grandiloquent contempt for all bodily suffering. However, no one maintains that all the ancient sects of Theists, and each disciple of every sect, firmly believed in a future state; and it must be remarked that the question raised by Bishop Warburton being as to the belief in a state of retribution, his citations from Seneca and Epictetus go to deny the future continuance of the soul altogether. Now he does not deny that at least some of the ancients did believe in this.

5. But the authority of Cicero presses our author the most closely, and accordingly he makes great efforts to [illegible]. After showing some circumstances, [illegible] than any thing else, in his philoso- [illegible] the oration *Pro Cluentio*, where, [illegible] superstition, he says it is gene- [illegible] Cicero asks, "Quid aliud mors eri- [illegible]" But this at best is a rhe- [illegible] in public (though [illegible] be seriously meant as [illegible] doctrine. The doctrines in

the *De Officiis* relate only to the Deity's being incapable of anger or malevolence, on which account he praises Regulus the more for keeping his oath when all philosophers knew *nec irasci Deum nec nocere;* which shows, according to our author, that Cicero could not believe in future retribution. But this is said by Cicero only in reference to immediate punishments, or judgments, as the vulgar term them. At any rate, the passage is quite capable of this sense, and every rule of sound construction binds us to prefer it as consistent with the other passages on a future state, while those passages will bear no meaning but one. We may here observe, in passing, the gratuitous manner in which works are held *esoteric* and *exoteric*, just as suits the purposes of the argument. The Offices contain the above passage, and therefore Bishop Warburton says it is the work which "bids the fairest of any to be spoken from the heart." The passage in the Somnium Scipionis, "Omnibus qui patriam conservarint, adjuverint, auxerint, certum esse in cœlo, ad definitum locum ubi beati ævo sempiterno fruantur," (*Som. Scip.* 37,) is got rid of, by saying that the ancients believed souls to be either human, or heroic and demonic, and that the two last went to heaven to enjoy eternal happiness, but that the former, comprehending the bulk of mankind, did not. This is begging the question to no purpose, for it is also giving up the point, and at the utmost only reduces the author's position to a denial that the ancients believed in the immortality of *all* souls. It must, however, be observed, that [illegible] he is allowed to assume also something like election and predestina-

tion, he gains hardly even this in his argument; for if a man by patriotic conduct can become one of the heroic souls, and so gain eternal life, what more distinct admission can be desired of a future state of retribution? That the doctrine of immortality was, by many at least, confined in some such way, may be true. The beautiful passage in Tacitus seems to point that way, "Si non cum corpore extinguuntur *magnæ* animæ."—(*Vit. Ag. sub fin.*) The main proof, however, against Cicero's belief is drawn from the Epistles, where alone, says our author, we can be sure of his speaking his real sentiments. Yet never did proof more completely fail. Writing to Torquatus, he says, "Nec enim dum ero, angar ullâ re, cum omni vacem culpâ—et si non ero, sensû omnino carebo," (Lib. vi. Ep. 3.)—and to Toranius, "Ima ratio videtur, ferre moderate, præsertim cum omnium rerum mors sit extremum." (Lib. vi. Ep. 21.) And this, which really means nothing more than a common remark on death ending all our pains and troubles, the learned author calls "professing his disbelief in a future state of retribution in the frankest manner."—*Div. Leg.* iii. 2.

It seems, therefore, not too much to say that the Divine Legation does not more completely fail in proving the grand paradox which forms the main object of the argument, and which has been parodied by Soame Jenyns, in his most injudicious defence of Christianity, that it does prove [illegible] the minor paradox which is [illegible] the real opinions of the [illegible], and which it must be admitted, is indeed quite

unnecessary to the general argument, and as little damages it by its entire failure, as it could help it by the most entire success.

NOTE X.—SECTION VI., p. 138.

A LEARNED and valuable work upon the life of Lord Bacon is prepared for publication by Mr. B. Montague, and will soon be before the world. Some very important facts are proved satisfactorily by the ingenious author, and show how much the criminality of this great man is exaggerated in the common accounts of his fall. But it is clearly shown, that he was prevailed upon by the intrigues of James I. and his profligate minister to abandon his own defence, and sacrifice himself to their base and crooked policy—a statement which disgraces them more than it vindicates him. One thing, however, is undeniable, that they who so loudly blame Bacon overlook the meanness of almost all the great statesmen of those courtly times.

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